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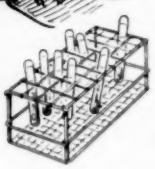

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FACTORS IN THE MAINTENANCE OF CIRCULATION.

The circulation of blood is maintained by the combined efficiency of the cardiac and vascular mechanisms. The heart during systole ejects into the aorta and main vascular tree a certain quantity of blood which raises the pressure to such an extent that with competency of the aortic valves and the functionating vascular system it is carried to the capillaries, where the interchange of vital substances between the blood and the cells takes place. It is therefore essential that the heart must have the capacity to eject blood at a sufficient rate to supply the tissues with their needs. Probably the most important factor in this is the regularity of the cardiac rhythm and the presence of a healthy myocardium. If arrhythmia occurs, irregular cardiac output results. But probably as important a factor in the maintenance of circulation is the presence of an efficient vascular tone. A pronounced constriction of the arterioles leads to a great increase in the cardiac work and frequently to deficiency of circulation through the capillaries. On the other hand, a very much dilated vascular periphery may diminish the pressure in the general vascular system and contribute to a gross diminution in the volume of blood returning to the heart for further circulation.

In order that the needs of the organism may be supplied under great variations of rest and work functional flexibility of the circulation is necessary. Therefore the heart and vascular system must have a considerable power of reserve. If it be taken that the cardiac output per beat is constant, an increased circulation is only possible by an increase of the rate of the cardiac systole. If, on the other hand, it be taken that the resting or basal systolic output is not the maximum, but with an increased demand the systolic output is larger than at rest, the same increase of rate would not be necessary. It has been found that in certain apparently normal individuals the increase of rate is the main factor in increasing the amount of blood circulated per minute.[2] In others there is not only an increased rate, but also an increased output per systole.[1] In the former it has been found that they have a greater capacity of oxygen utilisation,[2] and, therefore, that the tissues can perform their functions with a lower partial pressure of oxygen in the capillary blood. This, however, does not necessarily indicate that at rest the systolic contraction is incomplete in either of these respects. It might probably indicate that the diastolic relaxation in some is greater than in others.

Effect of Increased Work on Size of Normal Heart.

It has been debated as to what occurs in regard to the size of the normal heart on increased work. It has been demonstrated[3 4] that in individuals with a relatively great power for work (whether it be required through an increased demand or through the heart labouring under disadvantageous circumstances, such as high altitudes) the cardiac outline becomes definitely smaller under such demands, while in those with a relative physical debility the shadow does not decrease appreciably. The question now arises as to whether this ortho-diagraphic area is indicative of the size of the heart during systole or diastole. To those who are accustomed to estimate the cardiac shadow it is quite apparent that the area which is most obvious, either by ortho-diagraphic means or X ray, is the average area which occurs with complete systole. The diastolic area is very hazy and is only determined with great difficulty and inexactitude. It may therefore be concluded that the heart at the end of complete systole is smaller than usual in those individuals who are capable of performing heavy muscular work, either under normal or abnormal circumstances. It cannot, however, be presumed that this would necessitate a relatively greater capacity at complete diastole. The question therefore resolves itself into a discussion as to whether increased cardiac efficiency is accomplished by an increased systolic output and an increase of rate or by an increase of rate alone. As yet there is not sufficient data to decide this point in so far as the average normal person is concerned.

It has been shown in the normal individual that there is a direct relationship between the minute volume of the circulation and the general oxygen consumption per minute. Although this ratio may not necessarily be the same in different individuals, it maintains a more or less definite relation in the same person from time to time, other conditions being equal.

CARDIAC INEFFICIENCY.

Cardio-vascular deficiency may be said to develop when through circulatory disturbances an adequate supply of oxygen is not supplied in proportion to the needs of the organism. This in the first instance may be due not directly to a cardiac inefficiency, but to a great decrease in the vascular tone. The first and a very early effect in such cases will be a deficient return of blood to the heart, irrespective of the cardiac output. The end-result, however, will be the same as that resulting from failure of cardiac output. Whether the deficiency begins in the heart itself or in the vascular system, the first defect which the system feels is a deficiency of an adequate supply of oxygen. It will make a more concrete picture if we consider the question of cardiac function irrespective of the disturbance of vascular tone. The causes of cardiac inefficiency may be broadly divided into three classes—namely, (1) valvular lesions, (2) myocardial inefficiencies, (3) rhythmic disturbances.

1. *Valvular Lesions.*—The valvular lesions may be divided into two broad classes—those which interfere with the free onward propulsion of the blood-stream and those which allow of a certain amount of regurgitation. The conditions in the right heart which lead to either of these are either congenital in origin or are secondary lesions of the left heart. In so far as regurgitations are concerned, unless they be rather gross, an efficient myocardium may accommodate itself by hypertrophy and enlargement of the cavities to overcome the deficiency which results from such regurgitation of blood from either the aorta into the left ventricle or from the left ventricle into the auricle. Individuals suffering from such a lesion may be able to accomplish considerable work without any untoward symptoms. On the other hand, an interference with the onward flow of blood caused by a stenosis of either the mitral or the aortic orifices may lead to considerable physical incapacity. The cases of uncomplicated aortic stenosis are so rare that as yet no observations are

available. It might be supposed that in mitral stenosis the flow of blood from the auricle to the ventricle, both during systole and diastole, would be grossly impeded. The ratio between the amount of blood which enters the ventricle during diastole and that which is expelled during the auricular systole is not known. On taking the capacity of the two cavities into consideration it would be suggested that a considerable amount of blood flows into the ventricle during the diastole. This normal flow would probably be impeded by a mitral stenosis in proportion to the degree of the narrowing. In addition the auricle during its systole would likewise be handicapped in emptying its contents in a forward direction. The end-result would probably be a decreased flow of blood from the auricle to the ventricle in each cardiac cycle. This is corroborated by the manner in which the ventricle hypertrophies, although its cavity becomes smaller. The final proof is found in the fact that the output per systole in cases of mitral stenosis is conspicuously below the normal amount.[5] This decrease of the ventricular output may be so great as to necessitate, even at rest, an increase in the cardiac rhythm. It would appear that the normal resting individual has a greater circulation-rate than the needs of the moment require. This reserve is apparently provided to meet the immediate but comparatively slight demands which the ordinary movements of quiet life require. In the cases of mitral stenosis, however, where this reserve is being constantly used or exceeded, the slightest increase of work demands an increase of circulation relatively much greater than in the normal person. Therefore, the cardiac-rate must immediately and abnormally increase. The ventricular output per beat would most probably remain constant, and there is evidence which suggests that it may become smaller.

2. *Myocardial Deficiency.*—Of much more importance than the mechanical interference which valvular lesions may afford to the healthy myocardium is the question of myocardial efficiency. Any condition which interferes with the proper blood-supply to the myocardium or contributes to a degeneration of the muscle would probably produce a deficiency of circulation. A proper blood-supply may not be available for two reasons. In the first place it may be that the quality of the blood is abnormal, but normal in quantity, or secondly, that a normal quality of blood is deficient in quantity. In the first instance the arterial blood may be deficient in oxygen, as occurs in pneumonia, coal-gas poisoning, laryngeal obstruction, emphysema, anæmia, &c. This condition is especially harmful if it be produced acutely. In such cases one of the most essential constituents of the blood is deficient, and as a consequence the myocardium is greatly handicapped in performing its work. If this abnormal condition of affairs persists signs of cardio-vascular failure will develop, as it seems impossible for the myocardium to continue to functionate adequately without a generous supply of oxygen. As myocardial failure develops on account of the poor quality of the blood the quantity of the blood circulated will also become less and so a vicious circle will be established. This must be remedied by increasing the oxygen saturation of the arterial blood or else fatal cardiac failure will ensue. Secondly, if for any reason the vascular supply to the myocardium be interfered with—either through decrease in aortic pressure preventing the coronary arteries from acquiring their full pressure of blood, or through a stenosis or obliteration of the coronary orifices or the main branches—signs of cardiac embarrassment will be evident. If this deficiency of blood-supply primarily affects the myocardium and not the other tissues as well, the first signs of interference with function will be referred to the heart alone, and will be manifested by the characteristic syndrome commonly called angina pectoris. It must be recognised, however, that there is a relationship between the amount of cardiac work demanded by the organism and that which the heart may accomplish without alarmingly exceeding its own maximum blood-supply.

3. *Rhythmic Disturbances.*—When there are gross disturbances of cardiac rhythm, such as paroxysmal tachycardia and auricular flutter and fibrillation, a conspicuous decrease in the circulation-rate per minute occurs. In paroxysmal tachycardia where there is a complete auricular systole corresponding to each abnormal and rapid auricular excitation wave, it has been shown by Barcroft and his colleagues[6] that there is a very prompt and conspicuous fall in the circulation-rate per minute. This may probably be accounted for by the decrease in the period of auricular diastole, and by a compensatory protection on the part of the peripheral circulation. However, the exact mechanism of this decrease is not as yet quite clear. In auricular flutter, on the other hand, where there is apparently no complete auricular systole, and the ventricle is supplied with blood only during its own diastole, through a matter of gravity, the ventricular output will depend upon the amount which enters the ventricle during such a period. If the ventricular rate be 150 per minute, the period of systole will amount to 45 seconds and the period of diastole to 15 seconds; therefore, out of every minute the ventricle can only be filled with blood during 15 seconds. If, on the other hand, the ventricular rate be 75 per minute the period of systole will only occupy 22·5 seconds, and consequently during 37·5 seconds the ventricle will be filling with blood.* Under such circumstances the minute output of the ventricle would be conspicuously increased, in fact would practically return to the normal resting volume. On exercise, however, the rate would be apt to increase immediately to 150 per minute. There would be some gradation according to the peripheral demand, and as the auricle does not empty itself completely the circulation-rate would again depend upon the period of ventricular diastolic relaxation. A similar state of affairs occurs in auricular fibrillation, although in this condition the various factors are accentuated. It is a well-known fact that muscular activity is much more efficient if it occurs in a definite and regularly rhythmic fashion. In auricular fibrillation with a rapid ventricular-rate this is known not to occur. The ventricle may contract many times without an adequate blood-content, and the rate under such conditions affords no indication as to the volume of the circulation-rate; in fact, it may be taken to be an inverse ratio. In all of these conditions of rapid ventricular action due to abnormal excitation, the myocardium as well as the general organism suffers from a deficient circulation, and furthermore, the delicate gradation between demand and supply is completely upset. In cases of bradycardia, such as those due to complete heart-block, which are, as a rule, associated with a myocardial lesion, the cardiac output per minute, provided that there is no valvular or serious myocardial lesion, would be quite adequate for the resting organism. If, however, on account of exertion there be a demand for an increased blood-supply by the general organism, the ventricle being unable to increase its rate beyond its inherent rhythm, an augmented blood-flow could not be provided, except by increasing the output per beat. However, it seems apparent from the investigations which have been made up to date that the blood-supply under resting conditions in cases of heart-block is greater than required, and as this lesion, as a rule, occurs in elderly people where the demand for an increased blood-supply is limited on account of their diminished capacity for work, the deleterious results are not so obvious as in younger people.

Symptoms of Impaired Cardio-vascular Function.

The symptoms of impaired cardio-vascular function are very diverse. If the lesion primarily produces a deficiency of blood-supply to the myocardium, or if the myocardium be grossly damaged through bacterial or other intoxication, the symptoms will

* These times are only approximate.

centre about this organ. The functional effect of such lesions may vary greatly. In those cases where there is a pronounced interference with the myocardial circulation, very incapacitating symptoms develop, and sudden death may ensue. On the other hand, when the cardiac debility is the result of a myocardial intoxication, limitation of effort is much more graded, and the individual is warned to circumscribe his effort, before serious myocardial embarrassment occurs.

The quantity and quality of the blood-supply and the condition of the myocardium must be considered with reference to the amount of work which may be demanded at the moment. For example, in an individual aged 45 with coronary sclerosis and deficiency of myocardial blood-supply, the amount of work which they would expect to accomplish in an ordinary existence may be much in excess of that which the myocardium is in a position to accommodate. If such individuals rigidly restrict their effort they may continue without any symptoms, and after 10–20 years, when their general capacity for physical exertion is decreased, they may be able to do all the efforts ordinary to their age without symptoms. In other words, their condition has been reduced to a simple equation between demand and supply. If the demand be small enough, and the supply adequate, then the individual will be free of symptoms. If, however, there is a progressive decrease in the demand in proportion to a progressive decrease in the supply, the relationship will remain unchanged.

The acute cardiac symptoms occur in their most aggravated form as a result of diminished vascular supply to the myocardium. But they may also appear with scarcely less acuteness if the cardiac muscle be degenerated from other causes, from a bacterial invasion as in rheumatic fever, or from a specific toxin, as in diphtheria. It must be realised, however, that in all these latter conditions the general muscular and glandular system may also suffer, and, therefore, the general fitness for exertion may be conspicuously diminished. Under these circumstances the same urgency for an increased blood-supply may not be operative. This is well exemplified in cases of pronounced anæmia. Not only is the oxygen-supply to the myocardium diminished, but there is an oxygen-want in muscles, glands, and central nervous system. Therefore, when the individual attempts any physical or mental exertion the tissues supplied by the peripheral circulation suffer first, and as the myocardium is the primary recipient of an adequate blood-supply, provided the coronary system is normal, the symptoms are usually apparent in the periphery before cardiac distress is evident. Likewise, in those cases where the blood-supply to the myocardium is comparatively efficient, but the general circulation is impaired due to a diminished circulation-rate per minute, signs of peripheral disturbance are first obvious. These will primarily occur on exertion. One of the most important is dyspnœa. As the general blood-supply is deficient, the circulation through the periphery becomes decreased. There is therefore a local decrease in the partial pressure of oxygen and a relative increase in the carbon dioxide and other products of metabolism. Such a condition of affairs will have a distinctly disturbing effect upon the peripheral tissues. Those which require the greatest supply of oxygen will suffer first, as, for instance, the central nervous system, and the respiratory centre will probably manifest the first symptoms of distress. The result will be an increased pulmonary ventilation which will bring about a lowering of the carbon dioxide content of the arterial blood, and an attempt to increase the oxygen saturation. If in spite of the symptoms the effort be carried further, fatigue, exhaustion, and even unconsciousness may result. It is quite obvious that these developments are merely comparative, as it is common knowledge that the best of athletes, if they push their physical endeavour beyond their circulatory capacity, may develop syncope.

WIDENING RANGE OF CIRCULATORY IMPAIRMENT.

If the circulatory inefficiency be so extreme as to be manifest even at rest, more widespread and obvious symptoms develop. There is evidence to indicate that the more important parts of the organisms, such as the central nervous system, the kidneys, the liver, and the gastro-intestinal tract, are so placed that they may obtain an adequate blood-supply to the detriment of the skeletal structures. Therefore, when the body is completely at rest these systems may carry on their work without obvious symptoms, while the subcutaneous tissues and the muscles, particularly in the dependent parts of the body, may be very inadequately supplied with blood, and the circulation-rate through them be reduced to the lowest limit. As a result local asphyxia occurs in the most peripheral structures. As the decrease in circulation-rate progresses, the range of this circulatory impairment increases, and eventually the kidneys manifest their lack of adequate blood- and oxygen-supply by decreased function, as shown by a diminished flow of urine. In the meantime the circulation through the lungs may become so slowed that exudate of fluid occurs. This now produces a vicious circle. Such exudate or œdema interferes with the oxygenation of the arterial blood, which in turn reduces the supply of oxygen to the vital organs. As a consequence there develops a further and progressive decrease in the efficiency of the myocardium and the function of the other organs even at rest, with the occurrence of dyspnœa and orthopnœa, gastric distress, &c.

It has often seemed a paradox that as the cardiac dullness enlarges the evidence of circulatory failure may increase. We have found in these cases that there is a decreased circulation and also a conspicuous decrease in the output of the heart per beat in spite of the enlargement of the cardiac area. This can only be explained on the presumption that although the capacity of the ventricle is increased the completeness of the ventricular systolic contraction is diminished. Therefore, although the capacity of the left ventricle may be 150 c.cm. the systolic contraction may expel only 40 or 50 c.cm., thus leaving a residue of some 100 or 110 c.cm. of blood in the ventricular cavity.

We have further been able to demonstrate that if a relatively excessive demand for cardiac work be persisted in, the cardiac area may either remain in this dilated condition or may still further increase, and the systolic output progressively become less. This will occur whether the myocardium be the site of a chronic degenerative lesion or be suffering from an acute infection as so frequently occurs in acute rheumatic fever.

Increased Demand and Progressive Decrease of Functional Power.

There would appear to be a general law applicable to all functionating tissues of the body. It may be briefly stated as follows: if an organ be performing its work with difficulty, a gradual deterioration will occur if this increased demand be persisted in. On the contrary, if the work demanded of a diseased organ be less than its capacity at the moment a certain degree of restoration of function will ensue. This is exemplified in the recovery of function by the islands of Langerhans in diabetes mellitus if they be given a rest through decreasing of carbohydrate in the food, and also in cases of locomotor ataxia, when, after a period of physical rest, re-education may be undertaken, provided fatigue be not induced. If, however, an increased demand be continued, a progressive decrease in functional power will be evident.

This, therefore, points to one of the cardinal principles in the treatment of cardiac deficiency. When the myocardium is suffering from any abnormal blood-supply or mechanical handicap, and shows signs of failing under the burden, it should be placed as near as possible in an absolutely resting condition,

in order that it may have an opportunity of regaining some of its lost reserve.

I would like to take this opportunity to plead for a more organised and systematic handling of acute cardiac disease in children. If we cannot as yet prevent its occurrence, can we not do more to investigate the disabilities which handicap these little sufferers from the very threshold of their lives? I am convinced that much can be done to prevent the progress of functional deterioration in this crippling and fatal disease.

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Lumleian Lectures

ON THE CLINICAL FEATURES OF FOREIGN BODIES IN THE BRONCHI.

Delivered before the Royal College of Physicians of London

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LECTURE III.

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DIAGNOSIS.

THE first essential is a knowledge of the condition which should be considered in every case of respiratory tract disease which shows unusual features and, one may add, in some cases which seem to show no unusual features. So long as we regard a foreign body in the trachea or in a bronchus as a curiosity which is not likely to come under personal observation the diagnosis is not likely to be made. The *history* is most important if there is anything in it to suggest the possibility of a foreign body, but no weight should be given to a negative history. It is pathetic to find how often the patient suggested the possibility of something having gained entrance to the respiratory tract, only to have ridicule cast on the idea or to be told that it was impossible. Children have insisted that they had "swallowed" an object only to be laughed at. In some cases many years later the truth of the statement was proved. It is a common happening to choke when eating or drinking and nothing much is thought of it. The aspiration of a foreign body may cause nothing more and the disturbance may be so slight that no attention is given to it. Unless the distress is very severe a child is not likely to report it. It is surprising in the histories to find how often it was known that an object had been in the mouth and disappeared. The usual course of events is to infer that it was swallowed, and even if the stools were examined and nothing found, the incident is regarded as closed. How this can be done when the object which disappeared was an intubation tube, a tack, a staple, or a paper fastener is difficult to understand. Some people must have a great deal of the desire to hope for the best under all circumstances.

The *symptomless interval*, perhaps after some initial symptoms, which is common with inorganic foreign bodies, has played a large part in the errors in diagnosis. It may persist for days, weeks, or months, and the later symptoms are not regarded as having any association with the suspicious symptoms at the time of aspiration. The cases in which a tooth gained entrance while the patient was under anæsthesia offer a good example. The patient may make no complaint after coming out of the anæsthetic, and a cough, perhaps slight, is not regarded as of any special significance.

The occurrence of acute features, such as chills and fever with a rapid pulse and respiration-rate, often leads to a diagnosis of "influenza" or pneumonia, or perhaps, if they are not severe, to a diagnosis of bronchitis. It is remarkable how often the diagnosis of "pneumonia" appears in the histories. In the more chronic conditions if a lower lobe bronchus is obstructed the diagnosis of empyema is frequent. Pulmonary tuberculosis has been a common diagnosis, although one would suppose that the absence of tubercle bacilli might arouse doubt as to its correctness. It is interesting to note that pulmonary tuberculosis was found in only one of Dr. Jackson's patients with a foreign body in the air passages. If abscess or bronchiectasis has resulted these may be recognised, but the causal factor is not determined.

We have seen an interesting development as a result of the increased knowledge of bronchial foreign bodies—namely, that more and more suspicious cases are being sent to the clinic. Many of them present very difficult problems and require a period of observation before an opinion can be given. In the majority there is a possibility that a small piece of a nut may have been aspirated. A very small portion of a nut may excite inflammation but may not give sufficient signs to justify an immediate diagnosis. Fortunately, in these cases the size of the particle is such that there is no extensive blocking, and in the majority it seems to be expelled with the secretions sooner or later.

These doubtful problems are usually found in young children, and a common history is that the child while eating nuts suddenly choked and coughed. Following this there may be some cough and probably fever. The child does not seem very ill and the physical signs are about as follows. There is decreased expansion on one side, usually in the lower thorax, which may not be very marked. In the lower axilla of the affected side there is slight dullness, and on auscultation the breath sounds are distant with perhaps a few râles. The X ray study may not show any decided change in the lung, or the shadow of the lower part of the lung may have a slightly increased density. These signs may persist for some weeks and gradually disappear. Our inference in these cases is that a small particle has gained entrance to the bronchus and set up a local inflammation. With increase in secretion and the expulsion of this by vigorous coughing the foreign material is usually expelled. In some cases there may be a number of small particles. One point of interest in these cases is that the dullness is in the lower axilla and not in the lower back as a rule. In none of these cases has the question of pneumonia caused any difficulty.

It is best to discuss the diagnosis of certain groups, the members of which show considerable similarity. The need of frequent examinations in puzzling cases must be mentioned again. The signs are often so variable that much aid comes from this fact, especially in the diagnosis from pneumonia and empyema. In the cases in which the signs are definite and remain unchanged there is rarely much doubt.

Acute Cases.

These are usually due to foreign bodies of a vegetable nature, such as a nut, pea, or bean, and the clinical picture produced is distinctive to a considerable degree. Prompt diagnosis is usually necessary to save life. Emphasis must be laid on the severe character of the symptoms. The children are often desperately ill with high fever (often 104° to 106° F.), a rapid pulse-rate (140 to 180), a rapid respiration-rate (40 to 80), and evidence of marked toxæmia. In the more severe cases the dyspnœa is extreme, with marked cyanosis, and the struggle for breath is pitiful to witness. In some cases the toxæmia is so marked that the child makes little or no effort to cough. In milder cases the distress is less but any movement or exertion brings on severe dyspnœa, strangling

cough, and cyanosis. If there is marked secretion, as is the rule, there may be great difficulty in bringing it up and frequent ineffectual paroxysms of cough occur. This picture is that of one drowning in his own secretions. The picture may be of maximum severity with the foreign body in the trachea or in a bronchus. In either case the intense tracheo-bronchitis, which is excited and appears so quickly, probably has more to do with the symptoms than the mechanical effects of the foreign body unless it is in the trachea.

There is often the picture of *obstructive emphysema*, which is very deceptive when first seen, so much so that it is easy to mistake the side which is involved. With the lung over-distended with air, that side of the thorax is full but shows no movement, in strong contrast to the other side which shows an extreme degree of movement. The percussion note shows varying degrees of hyper-resonance or tympany, and if the condition has existed for some days there is usually some dullness below, especially in the axilla and adjoining back, probably due largely to secretion. The heart is moved towards the unaffected side. If the foreign body blocks one lobe only—usually a lower lobe or the right lower and middle lobes—the signs are less general; with a longer duration the air is absorbed, varying degrees of collapse occur, or the lung becomes filled with secretion.

The diseases for which this condition is most likely to be mistaken are diphtheria and pneumonia. The former error is shown by the number of patients who come with a history of diphtheria antitoxin having being administered. A large proportion of all foreign body cases—and especially those with vegetable foreign bodies—come with a *history* of a diagnosis of pneumonia and often of repeated attacks. It may be said that the writer has not seen an instance of lobar or broncho-pneumonia with a foreign body, and in no case has the diagnosis of pneumonia had to be seriously considered. No doubt the two might occur together, and probably some day such a case will be seen, but so far the coincidence has not been observed. In some cases there are multiple small areas of "septic" pneumonia found at autopsy, but these are not recognisable clinically and do not come under the clinical designation of lobar or broncho-pneumonia. We might expect that broncho-pneumonia would be common when we consider that the bronchi contain large amounts of pus, sometimes for long periods of time. May it be that in the ætiology of broncho-pneumonia we have given too much weight to the factor of infection by the bronchial route? The study of the foreign body patients suggests that we have.

Diphtheria.—Even with a suspicious foreign body history this diagnosis is often made. The toxæmia and the features of laryngeal obstruction, often present with a foreign body, suggest diphtheria. The fever is usually higher in foreign body cases—104° and 105° being common—than in diphtheria. Direct laryngoscopy is indicated and should prevent error. The result of cultures is important. As there are usually signs in the chest suggestive of a foreign body the finding of them throws doubt on the diagnosis of diphtheria.

Pneumonia.—The distress, dyspnœa, cyanosis, high fever, rapid pulse, and respiration-rate all suggest this. If the examination consists largely in the use of the stethoscope the presence of rough breath sounds and râles may seem to support the diagnosis. But a careful study of the physical signs should prevent error, certainly in the great majority of cases. If there are local signs suggestive of foreign body but doubt remains, the X ray should answer the question. The greatest difficulty arises in the cases of a foreign body in the trachea in which there are harsh breath sounds with many râles over both lungs and some dullness in the lower part of both lower lobes, probably due to the accumulation of secretion. The breath sounds in these cases do not suggest pneumonia, and the râles are usually very coarse and of a kind not usual in pneumonia. One source of difficulty is a restless, frightened child in whom examination is difficult at first. Patience and repeated examinations may be necessary. The frequent change of signs in a short interval is often of value. If the signs in pneumonia are marked there is rarely any question of the diagnosis. If the signs in a foreign body case are general, this may be due to a body in the trachea, in which event they are largely found on auscultation. If due to a foreign body in a bronchus, the general signs are due to bronchitis and secretion, while the lung involved gives characteristic local signs.

The X Ray Diagnosis of Non-opaque Foreign Bodies.

The majority of the cases with acute features are due to non-opaque substances, usually vegetable, and therefore the X ray diagnosis must be made by a study of the changes in the lungs. As regards the diagnosis from physical signs, it makes no difference whether the body is opaque or non-opaque, but from the X ray side the problem is a much more difficult one. By systematic study of these cases, however, Dr. W. F. Manges, of the Jefferson Clinic, is able to diagnose the presence of the non-opaque about as accurately as the opaque substances. The changes in the group of cases in which a ball-valve action occurs are especially characteristic, for if air enters the lung but cannot escape there is *obstructive* emphysema on the *affected* side and *compensatory* emphysema on the *unaffected* side. This was first described by Iglauer [1] in 1911 and 1912 and has been extensively studied by Manges.[2] The signs of acute unilateral obstructive emphysema are: (1) Greater transparency of the affected side, due to the larger amount of contained air; (2) displacement of the heart and mediastinal structures towards the unaffected side, due to the greater size of the affected lung; (3) depression and partial fixation of the diaphragm on the affected side; (4) compensatory emphysema on the unaffected side with increased excursion of the diaphragm. The movement of the sound lung is marked and hence, in plates taken at full inspiration, there may not be much difference in the shadow of the two lungs, but at the end of expiration the plate shows a marked difference. The changes are most marked at the end of expiration. The diaphragm signs are most important and enable obstructive to be distinguished from compensatory emphysema if there is any doubt. The signs are most marked if the child cries or struggles. The picture seen by the fluoroscope is striking. (Fig. 7 on Special Plate, THE LANCET, April 19th.)

This condition may persist for some time if nothing occurs to prevent the entrance of air. With swelling of the mucosa the entrance of air may be prevented at times and so the signs may vary. Air may be absorbed and secretions accumulate. After complete removal of the foreign body these signs usually disappear within a few hours. If they persist after 24 hours there is probably another foreign body present, which is not uncommon in the case of nuts, several fragments of which may have been aspirated.

Secretions may accumulate in the portion of lung below the foreign body and give an increased shadow. This may be difficult to distinguish from the early stages of abscess. *Collapse of the lung*, if marked, gives definite signs. The heart is displaced to the affected side, the position of the diaphragm is high, and there is a marked shadow over the area involved. If a foreign body in the trachea causes considerable obstruction there are signs of obstructive emphysema in both lungs. The diaphragm is depressed on both sides and is higher on inspiration than on expiration; the heart is vertical and more in the mid-line.

Inorganic Foreign Bodies which Do Not Cause Complete Obstruction.

1. There is a variable *history*—if one can be obtained—of choking and gagging at the time of entrance followed by a symptomless interval of variable duration.

[1] Ohio Medical Journal, April, 1911, and Lancet-Clinic, 1912, cii., 22.

[2] Amer. Jour. of Roentgenology, 1922, xii., 288.

2. The amount of *cough* varies, but tolerance is soon established as a rule. The cough, which appears later, is due to the secretions and the irritation caused by them. Should the foreign body remain in the trachea cough is likely to be a marked feature.

3. *Sputum.*—This may be blood-streaked early and consist largely of mucoid material. Later it tends to become purulent and very often foul and offensive. A varying length of time elapses before this occurs. With abscess formation and the establishment of bronchiectasis the sputum is of the usual character found in these conditions. Hæmoptysis is not uncommon, and some histories speak of it occurring at intervals over many years.

4. *Fever.*—This is present at some time or other. In the early stages it may be present for a few days and then disappear to return later. The height and character of the curve are very different; all varieties are seen. With suppuration the record is that usually found in septic conditions. Chills frequently occur with the fever.

5. The *general health* usually suffers to some extent. In children if the foreign body is retained for some time there is a decided retardation of growth, both physical and mental in some instances. The former is the more common. Clubbing of the fingers and toes is common in chronic cases. Death results from septic infection or from some accident, such as profuse hæmorrhage, pneumothorax, or empyema.

It is to this group that the majority of the chronic cases belong. In some cases, such as pins, there may be decreased expansion only. If obstruction occurs the signs are those of involvement of a lobe, or rarely the whole lung, which shows decreased expansion, diminished or absent vocal fremitus, dullness or flatness, and variable signs on auscultation. The sputum is purulent, there is fever, and the X ray study shows lung tissue which gives a dense shadow. The two conditions for which these cases are mistaken most often seem to be tuberculosis and empyema. The mistake of regarding such a condition as pulmonary tuberculosis has very little excuse. If the process is in a lower lobe, as is common, this is in itself against tuberculosis, and despite marked signs and profuse sputum, tubercle bacilli are not found. If a whole lung is involved, with such extensive changes due to tuberculosis, the other lung should show disease. *Empyema* seems to be diagnosed much more often, judging by the number of our patients who give a history of having been aspirated. A smaller, but a surprisingly large relative number, have had the pleura opened on account of the incorrect diagnosis of empyema. A careful study of the physical signs should prevent the error. Vocal fremitus is rarely absent, although it may be greatly diminished. The resistance is not as marked as that given by fluid, and to this great importance should be given. The area of dullness may correspond to the lobe, and this is not characteristic of fluid. Shifting dullness is not obtained. Smaller areas of dullness may suggest encapsulated fluid. If there is difficulty the use of the needle and the X ray study should prevent error. In our cases with empyema as a complication there has been no difficulty in its recognition. The signs on auscultation may vary from day to day, and as many râles are often present they speak against fluid. If the heart is displaced it is likely to be towards the affected side, not away from it as in empyema. (Fig. 8 on Special Plate.)

From animal organic material, such as pieces of meat or bone, it is interesting to note that the reaction caused is not much greater than that due to metallic substances. Pus seems to form more rapidly, but the general course of events is much the same.

Neoplasm of a Bronchus.—This rare condition may simulate the signs of a foreign body very closely, especially if, as in a case under observation at present, the growth almost completely plugs the bronchus. In this patient the signs were in a lower lobe. There had been repeated severe hæmorrhages. New growth was suspected and its presence verified by bronchoscopy. The X ray plate taken after bismuth had been introduced into the bronchus showed the rounded outline of the tumour very closely.

Aneurysm and Enlarged Mediastinal Glands.—It is evident that if these cause pressure on a bronchus signs suggestive of foreign body may be found. No difficulty has arisen from aneurysm, but in some few cases of enlarged glands there has been doubt for a few days. This is especially likely to occur if there is a calcified gland situated so that in the X ray plate its position suggests that it may be an object within a bronchus. Careful study and observation for a short time usually give the diagnosis. An object in a bronchus of the size of the shadow would cause complete blocking which gives definite signs, much more marked than those due to the pressure of enlarged glands.

Foreign Body in the Œsophagus.—If this is obstructive, food and secretions enter the trachea and give general signs on auscultation. Considerable irritation may be set up and suggest a foreign body in the air passages. The absence of local signs, the X ray study, and direct examination give the diagnosis. In one patient ulceration in the œsophagus from a foreign body caused perforation into the air passages and gave a puzzling picture.

Exploratory Bronchoscopy.—If other methods have failed this should be done, needless to say by competent hands. The direct inspection of the bronchus to each lobe gives information, as Dr. Jackson says, as does cystoscopy of the appearance of the ureters. It may be said that we have had to use this method very rarely. It is very useful in cases of abscess or bronchiectasis in which there may be a question of the presence of an object, such as a tooth, which does not show clearly in an X ray plate.

The *position* of a foreign body can usually be determined with accuracy if it causes any degree of obstruction. The signs are in the area of lung supplied by the obstructed bronchus and, as a rule, are well indicated. If granulations have formed and extend upward so as to involve a higher bronchus the site of obstruction can be determined, but the foreign body is below this. In opaque objects the X ray study gives the answer. With a structure such as a pin it may be possible to determine the lung involved but not the bronchus, although marked limitation of movement below, rather than above, speaks for a lower lobe bronchus. The presence of signs on auscultation due to secretions rarely gives difficulty.

The *character* of the foreign body may be determined by the history. Some vegetable substance is suggested by marked general features, fever, toxæmia, &c. The curious fine râles sometimes heard over the area where a small metallic body is situated may be suggestive. Naturally, in the opaque group the X ray study is essential. Whether the blocking is complete or partial the situation gives some idea of the size. The diagnosis of the character of the foreign body is most important in the vegetable group as they are the most dangerous to life.

PROGNOSIS.

This is not to be stated in any set terms, as can be inferred from the great differences in the effects produced by various objects. When a foreign body has gained entrance to the trachea or bronchi there is naturally the hope that it may be expelled without interference. This does occur, but in a very small percentage; in Jackson's experience it has been in 2 per cent. of the cases. It may be soon after aspiration or a long time later, when with coughing the object may be expelled with a large amount of pus. We have seen, in rare instances, in cases in which several portions of a peanut had been aspirated, that after removal of one portion by bronchoscopy a smaller portion was coughed up subsequently. But in estimating the prognosis the slight chance of removal in this way should receive very little consideration.

Any object which has gained entrance to the air passages can be removed by skilled hands. In Dr. Jackson's clinic there has been a successful result as

regards life in about 99 per cent. Almost all the deaths have occurred in the nut cases, despite removal. There is no instance of failure to remove the foreign body when sufficient opportunity was given. In one instance, mentioned previously, death occurred from hæmorrhage before the foreign body could be removed. It had been present for 36 years and new growth had developed. The great majority of the removals were done by Dr. Jackson; some were done by his assistants Dr. G. Tucker and Dr. L. F. Clerf.

The character of the foreign body is of the greatest importance. The substances of vegetable origin are in a special class. The evidence suggests that in practically every case, if the object is not removed, death follows. This may be in a few days, from the severe septic tracheo-bronchitis plus toxæmia, or result some time later from gradual exhaustion plus infection. A few patients may survive long enough for abscesses to form, but in these death, if delayed, is no less sure. Age plays an important part; the younger the child the more severe the symptoms and the greater probability of death occurring in a few days. The time between aspiration and removal is important, as the shorter stay of the foreign body the better the outlook. But even here early removal may not save the child, as in two cases quoted, one of a peanut and the other of a grain of corn, death resulted although the foreign body was removed on the day of aspiration. The degree of toxæmia is a useful guide. In general, it may be said that if the foreign body has been removed the outlook for recovery is better than the general condition suggests. Many children whose condition is desperate recover in a surprising way.

In the group of inorganic substances with skilled bronchoscopy and removal within a short time of aspiration the outlook is excellent and recovery is almost certain. As regards life the danger comes late from suppuration and abscesses. These cases differ in no way from such conditions due to other causes as long as the foreign body is not removed. If this is done then one can say that the outlook is always much better than in such cases due to other causes. The removal allows drainage and the improvement is often surprising. In this group the character of the foreign body plays a large part. One which causes little, if any, trauma and does not interfere with the entrance of air and drainage may be followed by slight change. An irregular mass, such as a tooth or an object with sharp edges, which injures the mucosa, is a much more serious matter. In the great majority of cases in which there has been abscess formation or bronchiectasis, the patient has recovered good health. There may be changes left in the lung but the restoration of function is remarkable.

With a foreign body in the trachea or one in a main bronchus which may be expelled into the trachea the outlook is always uncertain, as the foreign body may become impacted in the larynx following cough. After removal of the foreign body or bronchoscopy in young children there is always the danger of a marked increase in the usual subglottic swelling. This may come on or increase suddenly, and unless tracheotomy is done promptly death results. The care and skill which are available have an important bearing on the outcome in such cases.

TREATMENT.

Removal of the foreign body is indicated; the technical details it is not in my power to discuss. Certain aspects of the problem may be noted briefly. The patient with a movable foreign body in the trachea is always in danger of impaction in the glottis when the object is forced up from below by cough. Hence efforts to favour removal by inverting the patient are contra-indicated. In the patients with subglottic œdema there is always danger of complete obstruction. The question of tracheotomy should always be in mind, and this should not be delayed too long. Naturally, no set rules can be given for this, but it is better to do some tracheotomies which might not be necessary than to lose a patient by delaying it too long. Efforts to remove a foreign body by the fingers should not be made.

With a foreign body in a bronchus it is important to take time to study the patient thoroughly, unless perhaps in the very acute and severe cases due to vegetable substances. If the child is exhausted from a journey it is important to give opportunity for rest. There is no special treatment required in preparation for bronchoscopy. In patients with pneumothorax or empyema careful study of the whole problem is advisable before deciding as to the procedure. In our cases we have drained the empyema first.

After bronchoscopy in young children the danger of subglottic œdema must be kept in mind and the child watched constantly so that tracheotomy can be done when required and not delayed too long. If there is much secretion or an abscess is present it is an advantage to use the effect of gravity in aiding drainage after removal of the foreign body.

The physician may be asked to decide as to the wisdom of bronchoscopy in a child who is desperately ill with a foreign body in the air passages. Naturally, something must depend on the skill of the bronchoscopist who is available. In properly trained hands it seems wise to proceed with bronchoscopy as giving the best chance of recovery.

An Address

[ABRIDGED]

ON

MENTAL STATES IN ALCOHOLISM.

Given before the Society for the Study of Inebriety on April 8th, 1924,

BY BEDFORD PIERCE, M.D., F.R.C.P. LOND.,
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WHEN full allowance has been made for the large number of cases in which alcoholic indulgence is only a symptom of some underlying mental disorder, it remains true that alcoholism is the principal cause of a serious amount of insanity. We find that the forms of mental disorder associated with intemperance present an extraordinary variety of clinical states, covering almost the whole range of psychological medicine. Nevertheless, the clinical examination of a patient with alcoholic insanity rarely discloses symptoms which are in themselves a trustworthy guide to the cause of the disease. In other words, with one or two exceptions, the alcoholic psychoses present few specific features.

THE ALCOHOLIC PSYCHOSES.

Bevan Lewis, in his text-book, gives one of the best clinical descriptions of the alcoholic insanities. He divides them thus: 1. Acute alcoholic insanity. 2. Chronic alcoholism (*a*) amnesic form, with or without delusions; (*b*) chronic delusional form; (*c*) dementia. The attempt to subdivide accurately the clinical states confirms the conclusion that states produced by alcohol are apt to be indistinguishable from those produced by other agents. This, of course, raises the question whether these various mental states depend on the particular disturbing agent producing them, or on the individual's constitutional make-up and mode of reaction. In any case, we may safely conclude that the problem is not merely one of alcohol or no alcohol, but of temperament, personality, and nervous organisation.

We will now consider some of the clinical varieties of mental disorder due to alcoholic intemperance.

Alcoholic Delirium (Delirium Tremens).—This is more specific in its general features than any other mental disorder attributable to alcoholic indulgence. The combination of tremor with delirium is practically unseen elsewhere. By itself neither symptom is peculiar to alcoholic patients; but the syndrome

known as delirium tremens can hardly be mistaken for anything else. The relation of the delirium to alcohol, however, is by no means clear. My experience confirms that of Dr. Hare and others, who look upon the delirium as essentially a deprivation symptom. The patient has acquired a toleration for alcohol; he has come to find that a considerable quantity is necessary to enable him to carry on his work, and if for any reason he cannot take or assimilate his accustomed quantity delirium appears. The rapid improvement that follows the administration of alcohol in early cases of delirium is strong evidence that this view of the matter is correct. But we have still to explain the delirium itself, and the suggestion has been made that it is due to a secondary toxæmia. Jauregg advanced the theory that excessive indulgence in alcohol produced an antitoxin which enabled tolerance to be established, and that delirium was caused by an excess of this antitoxin. It has also been claimed that the serum of confirmed alcoholics yields a toxin that will produce delirium in dogs.

Transient Mania (*Mania a potu*).—This condition occurs after, or in the course of, a drinking bout. It sometimes arises from a peculiar susceptibility to alcohol. One man, after a single glass of whisky, will become violently aggressive, while another may become homicidal without losing consciousness. But much more serious are the automatic unconscious states that sometimes occur, during which disasters happen which afterwards are not remembered. Almost any newspaper we pick up records a crime committed during intoxication.

Acute Alcoholic Hallucinosis.—This form of mental disorder attacks persons who have been drinking heavily for a long time. It differs from delirium tremens in that the hallucinations are more coherent, and fit in with delusions—probably of suspicion or persecution—which usually lead to acts of violence.

Polyneuritic Psychosis (*Korsakov's Syndrome*).—Long-standing alcoholic intemperance is the most common cause of this disorder, but it occurs also in chronic poisoning by arsenic, lead, and mercury, and in other diseases causing neuritis—e.g., diabetes and septic poisoning. The peculiar symptoms from our point of view are the extraordinary loss of memory for recent events and the extreme dissociation. Here the pathologist can suggest an explanation, as distinct degeneration of nervous elements can be observed. This affects either the peripheral nerve fibres, or the cortical fibres, or both, and it is assumed that the clinical symptoms vary according to the region first attacked. The peculiar tendency to fill up gaps in the memory by fictitious statements is not easy to explain. The senile patient who cannot remember is conscious of his defect, and is very clever in evading questions calculated to expose it. But in the disorder we are considering the patient does not know that he has a bad memory; and on being asked a question he replies promptly with any statement that the inquiry may have suggested. Not only the memory, but the self-critical faculty is absent.

Other Types of Mental Disease.—Many other types of mental disease arise from habitual intemperance; indeed, they are so numerous that it will be impossible to describe them. The most common is a mild state of mental enfeeblement, which may escape the notice of a casual observer, and cannot be called dementia. But it is quite apparent to intimate friends and those who can contrast the present with the past. In some cases there is a progressive amnesia, which may be due to a complication such as arterio-sclerosis. Another common type begins with delusions of suspicion, and rapidly reaches a paranoiac condition. Hallucinations of hearing are frequent; and the delusions generally refer to persecution by unseen enemies. Such patients are often homicidal, and are perhaps the most dangerous persons under care in mental hospitals. The duration of the illness is usually shorter than in true paranoia, and advancing dementia softens the clinical features. Between these prominent types are large numbers of cases, many of whom, when compelled to abstain, settle down in their guarded surroundings and become excellent workers. They do not recover, but they do not deteriorate further. I can only mention the epileptic type and the pseudo-paralytic type, which may present an exact picture of general paralysis in speech, gait, and behaviour. Again, there are cases of maniacal excitement, of depression, and of confusion, whose protean nature makes description impossible.

ALCOHOL AND INHIBITION.

Turning now to consider the immediate effects of a single dose of alcohol, it is generally agreed that it is not a stimulant but a sedative. Even when a dose is followed by increased ease in performing certain actions, this is due, not to the direct stimulus afforded, but to the removal of inhibitions. The usual formula is that alcohol tends to weaken and paralyse nervous functions, attacking the higher centres before the lower, and affecting qualities acquired late in the history of the race, such as self-criticism, before the more primitive qualities. I confess that I am perplexed when I try to set up a hierarchy of mental qualities, nor am I sure that the inhibitions weakened by alcohol are necessarily high. How many people, for example, have been too self-critical to create anything of moment! Be that as it may, however, there is no doubt that alcohol, even in moderate doses, is a sedative, and tends to weaken our mental powers. That the main reason for its consumption is the sense of well-being that it produces is more doubtful. Some good observers report that they are conscious of no such feeling, while in a few persons a dose of alcohol is followed by malaise or depression. It has been contended that the sense of well-being, or euphoria, is a secondary effect, depending on the company present and other extraneous conditions. Prof. Starling best expresses the view that alcohol is taken chiefly for the purpose of enabling an individual to forget the worries and perplexities of life. It certainly appears to induce a selective process in the memory, or perhaps, more correctly, the attention, whereby the painful facts of life are forgotten or unheeded. But yet its primary effect can hardly be on the memory, which is by no means one of the lately acquired mental attributes. In this connexion I remember very distinctly a mountaineering episode. We were on the return journey; I was physically exhausted, and I had lost all my courage. I simply dared not face the descent of a rude staircase cut in the ice until the guide pulled out his flask. One draught, and in five minutes I had accomplished the descent! But what had that to do with memory or even intelligence? I was perfectly aware of the risk I ran, but my fear of it had vanished; I did not doubt that I should keep my footing.

ALCOHOLISM AND INSTINCT.

Without entering on a discussion of Dr. Stoddart's view that "the alcoholic drinks enough to let his unconscious have its fling, and thus finds happiness," or examining the ground covered by the psycho-analytical school, it seems clear that many of the symptoms of temporary intoxication, as well as those occurring in alcoholism, may be regarded as arising from disturbance of the instincts. As the late Dr. Rivers said: "The altered behaviour which follows the taking of excessive amounts of alcohol can be traced to the over-action of instinctive and other early tendencies normally kept under control by the higher levels of mental activity." The connexion between the instincts and insanity in general, which was made clear more than ten years ago by Sir John Macpherson, has occupied many workers; and here, following their line of thought, we may briefly trace the relation of alcoholism to the three primitive instincts—the herd, the sexual, and the ego.

1. *The Herd Instinct.*—We find that small doses of alcohol tend to promote conviviality, and lead to a relaxation of social conventions. This is seen in

public-houses or on festive occasions. In a minority of cases, however, the tendency is to drink in solitude and to escape from all social claims.

2. *The Sexual Instinct* is markedly affected by alcohol. It becomes less under control, and crimes of passion, and indecencies of all kinds, are the result. Dr. Sullivan said that in half the convictions for sexual offences the influence of alcohol could be traced.

3. The *Ego Instinct* is conspicuously affected. I have spoken of the dispersal of fear by "Dutch courage." Self-criticism is in abeyance, and the alcoholic does not realise the effect of the drug upon him. Commonly there is greater self-satisfaction, and a sense of power, which degenerates into callous disregard of the claims of others. Altruism tends to disappear. Then there is the reaction of remorse, often leading to suicide. In pathological states there are delusions of suspicion which may end in homicide. Dr. Sullivan tells us that three-fifths of the total number of crimes of violence are due to alcohol, although in such crimes as theft and forgery its influence appears to be negligible.

It may be suggested that the primary influence of alcohol is on the vegetative nervous system. That it produces a dilatation of the peripheral vessels is well known, and possibly it also acts on the nervous mechanisms involved in the expression of the emotions, including the endocrine organs. But where so much is vague and uncertain it is difficult to draw conclusions. Until we know more of the physiology of the nervous system and its relation to instinct, we are unable to speak with confidence on the mental action of alcohol. Meanwhile we cannot but marvel at the extraordinary changes produced in human beings by the taking of a small quantity of this well-known chemical substance!

SCARLET FEVER OTITIS.

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AND

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SCARLET fever, as judged by case-mortality, is, in its present phase at any rate, a comparatively mild disease. During the last 15 years case-mortality has declined from what was then considered the low figure of about 3 per cent. to the 1 per cent. of the present day. There has been a decline pari passu in the incidence of complications. These are, however, still sufficiently numerous and important to demand the utmost that can be done for their prevention, and failing that, for their treatment.

The nasopharynx being primarily and invariably involved in every case of scarlet fever, which is, as Trousseau observed, a "maladie essentiellement angineuse," it is only to be expected that complications arising from direct spread of infective material from the nasopharynx—e.g., otitis media—should play an important part in the clinical picture of the disease. Many estimations of the percentage incidence of scarlatinal otitis have been made. Writing in 1909 Hunter,[1] basing his figures on cases treated at the London Fever Hospital, gives an average of otitis in a total of 648 cases of scarlet fever treated during 1904–07 (four years) as 10·6 per cent. (mastoiditis 0·7 per cent.). Yearsley [2] quotes the Metropolitan Asylums Board figures for 1906 as 13·21 per cent. (of whom 0·68 per cent. had mastoid abscesses) of 17,829 scarlet fever admissions. In 1907 the percentage of otitis from the same sources was given as 11·4 per cent.

[1] Hunter, Wm.: The Practitioner, 1909, lxxxi., 1, No. 487.
[2] Yearsley: Ibid.

An analysis of cases admitted to the Birmingham City Hospital for the two years 1921–22 shows that of 3684 patients admitted with a diagnosis of scarlet fever "280 cases either had on admission or developed during their stay in hospital running ears on one or both sides. This number represents 7·6 per cent. of the crude scarlet fever admission figure. Of 122 cases of otitis during 1921, 22 had running ears on admission, and in nearly every one of these cases the discharge was of long standing. Scarlet fever could not therefore be blamed in these instances. On investigating the origin of the otorrhœa in these cases it was found that in the majority measles was the originating exanthem."[3]

Importance of Aural Complication of Exanthemata.

One of us (F. B. G.) recently examined 100 consecutive cases of ear discharge in elementary school children under 14 years of age. It was found that in 18 per cent. measles, and in 19 per cent. scarlet fever was stated by the parents to be the starting-point of the disability. Various figures have been adduced to show to what extent the exanthemata are causal of the chronic discharging ear of adult life.

Kerr Love [4] places the responsibility of measles at 23·7 per cent. and of scarlet fever at 15·8 per cent. Although there has been a reduction in the incidence of scarlatinal otitis during the last 15 years, it is clear that the aural complications of this disease still present a serious otological problem, and when account is taken of the similar destruction wrought by measles, which equals, or possibly exceeds in its extent that due to scarlet fever, it is obvious that the prevention, if possible, or at any rate the mitigation of these aural complications constitutes an important task for preventive medicine. In our experience an otitis media occurring in the course of an attack of diphtheria (as distinct from combined diphtheria and scarlet fever) and from which true *virulent* diphtheria bacilli can be recovered, is very rare. Mere morphological diagnosis of bacilli present in the discharge is useless, since diphtheroids are recoverable from many ear discharges. (A virulence test of the organisms is essential.)

Age-incidence of Scarlatinal Otitis.

It is of interest, and we think of importance, further to analyse the incidence of scarlatinal otitis occurring in age-periods. We have done this for the cases admitted to this hospital with a diagnosis of scarlet fever during two complete years 1921–22. It should be noted that Table I. represents the crude admission figures uncorrected for errors in diagnosis, and further does not differentiate between those cases which developed otitis during stay in hospital and those who already had it upon admission. It does, however, represent the extent of the otological problem at this hospital, and indicates the age-group which presents that problem most acutely.

TABLE I.

Age-period.	Cases of scarlet fever.	Cases of otitis.	Percentage in age-period.
0–5	758	117	15·4
5–10	1686	132	7·8
10–15	703	24	3·4
15–20	192	7	3·6
20 plus	245	10	4·0
	3684	280	
		7·6 per cent.	

It will be seen that although the greatest number of admissions (45 per cent. of the total) are of children aged between 5 and 10, and that this age-group provides 40 per cent. of all cases of otorrhœa occurring in the scarlet fever wards, yet the percentage incidence in the various groups is very different. Of the children admitted at ages 0–5, 15·4 per cent. developed otitis—a percentage incidence twice as high as in the 5–10 group, and approximately four times as high

[3] Report, M.O.H., City of Birmingham, 1922, p. 57.
[4] Kerr Love: Diseases of the Ear in School Children, 1919.

as in either of the remaining age-groups. The percentage incidence for all ages was 7·6.

Now, low as the case-mortality at all ages of notified cases of scarlet fever is at the present time, it will be seen from the following table (Table II.) collated from the Birmingham Health Reports for 1921–22 (the same years as are under consideration above), that the case-mortality per cent. from 0–5 is considerable.[5]

TABLE II.—*Percentage Mortality of All Cases of Scarlet Fever Notified in the City of Birmingham in 1921–22 According to Age-groups.*

Ages in years.	Cases notified.		Deaths registered.		Case-mortality percentage.	
	1921	1922	1921	1922	1921	1922
Under 1.. ..	23	28	2	1	9	4
Between—						
1– 2.. ..	91	83	10	6	11	7
2– 3.. ..	142	161	5	10	4	6
3– 4.. ..	175	161	2	1	1	1
4– 5.. ..	219	196	3	3	1	2
5–10.. ..	1599	1452	12	9	1	1
10–15.. ..	710	710	4	2	1	0
15–20.. ..	160	205	0	1	0	0
20 and over	210	263	2	3	1	1
—	3320	3250	40	36	1	1

The period 0–5, then, is responsible for the greatest case-mortality from the disease, and also for the greatest percentage incidence of otitis. These young children die not from toxic scarlet fever, but from the septic type, characterised by rhinitis, otitis, and adenitis, and terminated all too frequently by septic broncho-pneumonia. They have an overwhelming infection of the nasopharynx. An analysis of cases admitted during 1922 shows that the incidence of otitis and rhinitis (at all ages) was highest during the first quarter of the year, and lowest during the last quarter.

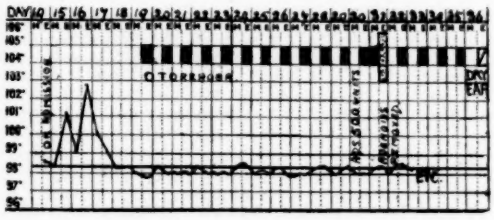
Operative Measures.

From the preceding remarks it will be seen that the running ear of scarlet fever is a frequent complication of the malady, and if untreated is the cause of a great deal of the chronic otorrhœa in school and adult life. Further, our figures would seem to point to the fact that this complication is more liable to occur under the age of 5, when the nasopharyngeal infection would find a suitable nidus in the adenoid mass generally present at this age. The Eustachian tube from its position and relatively larger size in infants would, at this age, be expected to carry the infection to the middle-ear readily. It would appear, therefore, that if infection from the nasopharynx could be eliminated early in the onset of a scarlatinal otitis, further infection through the Eustachian tube would be prevented, and the course of the complication considerably shortened. Yearsley, as long ago as 1909, suggested the advisability of removing the adenoid mass during the convalescence of scarlet fever as a means of aborting the ear discharge. Treatment of the nasopharynx by douching, as formerly practised, can only be mentioned to be condemned as productive of more untoward complications than good. Surgically it would appear that two indications are manifest in dealing with the infection of the middle-ear—i.e., (1) removal of the initial focus of infection—e.g., the adenoids (and tonsils, if also sharing in the infection), (2) release of the pent-up secretions of the middle-ear—i.e., paracentesis of the drum-head.

The theoretical merits of the above principles are beyond dispute, but on their practical application opinion appears to be divided. Layton in his report to the Metropolitan Asylums Board for the year 1920–21 says on the subject of paracentesis of the drum-head, "In my opinion it is upon the early and efficient performance of this operation in every case in which there is bulging of the drum-head that the success or failure of any organisation set up by the Board for the prevention of chronic otitis will depend," and he goes on to say that in the vast majority of cases if this operation is performed at the right time the inflammation of the ear will clear up and chronic ear discharge will not ensue; at the same time he draws attention to the necessity of using a general anæsthetic for this operation.

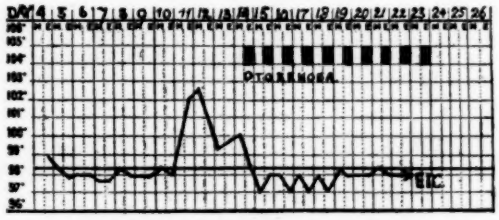
With the above statements we agree in great part, but the following considerations require attention. Scarlet fever and measles most often occur during the first ten years of life. In a hospital with special facilities of light for inspecting ears, and for operative purposes, the diagnosis of a bulging membrane in an infant of 3 or 4 years of age is a great deal easier than in a private house, where we consider that the practitioner in charge of the case is called upon to perform an intricate and delicate operation under conditions which are often extremely adverse. Further, others have doubted whether the results are so uniformly successful as above suggested, and we would here remark that no figures for such cases are recorded.

CHART 1.



Illustrating premonitory pyrexia. (Scarlet fever No. 602, 1923, aged 1 year 4 months.)

CHART 2.



Illustrating premonitory pyrexia and result of removal of adenoids. (Scarlet fever No. 1118, 1923, aged 8, desquamation on admission.)

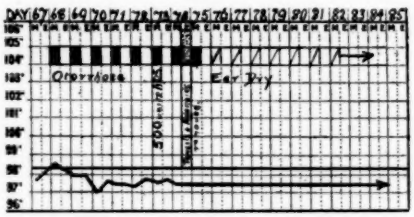
To come to what in many cases must be the primary focus of infection—the post-nasal catarrh and methods of dealing with this. It has been the practice of this hospital during the last year to devote a separate ward to cases of scarlet fever with otitis. All such cases are transferred to this ward and barrier-nursed. If the ear does not respond successfully to local treatment, and it is thought that the condition or amount of adenoid tissue is responsible for the continuation of the discharge through obstruction or infection of the Eustachian tubes, then operation to remove the adenoids (and the tonsils, if obviously infective) is performed. In the average case of scarlet fever without other complications this can be done with safety in the fourth week of disease. We have found that cases responded to removal of the adenoids alone, as satisfactorily as those in which the tonsils were also removed. If the adenoids alone are removed, we consider that this operation is productive of far less shock and risk of hæmorrhage than if the tonsils are removed at the same time. If at this stage the perforation of the membrane is considered inadequate for drainage it is enlarged from the existing perforation. A prophylactic dose of diphtheria antitoxin is given before operation. So far no complications

[5] Reports, M.O.H., City of Birmingham, 1921–22.

have attended this line of treatment, which has been given a lengthy trial in Edinburgh by Gardiner.[6] The following figures from this hospital[7] may be of interest. Before an ear ward was established, or special supervision of ears undertaken, the average duration of the running ear in cases treated by routine methods was about 40 days from onset.

"In 1921, 108, or 89 per cent. of the total of 122, cases of scarlet fever otitis were ultimately discharged with dry ears, including three upon whom a modified mastoid operation had been performed. Three died [from other complications] and 11 were discharged from hospital with ears still running. Superficially these results may appear to be fairly satisfactory, inasmuch as a large percentage of cases left hospital with dry ears, but they are not necessarily so because in most of these cases the source of the running ear had not been removed. There is little doubt that the ears in a number of these cases started discharging again after leaving hospital, resulting in chronic otitis, and possibly ultimate deafness."

CHART 3.



Illustrating symptomless late onset of otorrhœa and speedy success of operation. (Scarlet fever No. 423, 1923, aged 3, pigeon chest. Previous illness, measles.)

The average duration of the ear discharge in 20 cases treated in a special ear ward with efficient means of examination and treatment, but without operation, was 32·4 days. The last 50 cases treated by removal of adenoids, as well as paracentesis where necessary, were dry in an average of 15·8 days. Gardiner's Edinburgh figures show a great similarity.

Clinical Manifestations of Scarlet Fever Otitis.

The clinical manifestations of the onset of scarlet fever otitis are as follows:—

1. The onset in about half of the cases is painless; if occurring in the acute stage of the disease, pain is more liable to be complained of than when the complication arises during convalescence.

2. A small rise of temperature should always suggest an examination of the ears. The following charts show that this rise often precedes the otitis by a day or more. Timely paracentesis in these cases should be of value (see Charts 1 and 2).

3. Symptomless discharge may be the first indication. In our belief, in early life the membrane ruptures extremely easily, probably owing to its finer texture at this age. We have found that this mode of onset is more common in children under 5 (Chart 3).

4. In our experience mastoid complications are rare under 5 years of age. Two only out of a series of 16 consecutive cases of mastoiditis occurred in children under 5, a figure out of all proportion to the incidence of otitis in this age-group (Table I.).

We wish to record our very strong agreement with Gardiner that scarlet fever does not, as a rule, cause a rapid destruction of the membrane in the early stages of the disease if properly treated. In the last six months at this hospital less than half a dozen cases have been discharged with large perforations, and in the majority the perforation had completely healed before discharge. From the point of view of preventive medicine we hold that this fact is important, for an ear with a perforation is more prone to future attacks of suppuration than if the membrane were intact. It would appear that early and energetic treatment is the most economical means of dealing with this large class of case.

[6] T. Gardiner: Journal of Laryngology, xxxvii., No. 10.
[7] Report to M.O.H., City of Birmingham, 1922.

ORGANIC ARSENIC COMPOUNDS IN PULMONARY TUBERCULOSIS.

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AND
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ARSENIC, a very old remedy in tuberculosis, is one of the few medicinal substances used in this disease which has withstood the test of time. Usually given as Fowler's solution, it is of value at one time or another in most cases of chronic pulmonary tuberculosis, and its action in glandular infection is frequently most satisfactory. Arsenic seems to do best when given over rather long periods in small doses, occasional intervals being allowed and no attempt being made to increase the dose. Watch must be kept for intolerance, which commonly manifests itself in the gastro-intestinal tract; and it must not be forgotten that arsenic sometimes seems to predispose a patient to an attack of herpes zoster, and that its prolonged use is stated to have brought about malignant disease of the stomach.

The work recorded in the present paper was undertaken in order to discover whether the modern organic preparations of arsenic offer any advantages over the older compounds, particularly in pulmonary tuberculosis.

Precautions against Undesirable Sequelæ of Administration of these Drugs.

The exhibition of these drugs is not entirely free from risk, and, as they are used for the most part by those engaged in treating venereal disease, a brief résumé of these risks and of the means employed to minimise them may not be out of place. The reactions consequent upon the absorption of these drugs may be classified shortly as follows:—

Immediate Risks.—Symptoms appearing as soon as the injection is made, such as a bad taste in the mouth, pallor, sweating, flushing, nausea, violent retching and vomiting, prostration.

Mediate Risks.—Symptoms appearing from a few hours to two days after injection—e.g., malaise, headache, nausea, vomiting, and pyrexia. These constituted the "reactions" so often seen with the older types of arsenobenzol.

Remote Risks (jaundice and general dermatitis).—A discussion as to the causes and the treatment of these accidents will be found in any up-to-date textbook on venereal disease. The more alarming immediate reactions are best met by the absolutely recumbent position, adrenalin subcutaneously, and, later, sips of black coffee. Repetition of immediate reactions is said to be prevented by the prior use of atropine hypodermically, but this is not quite true, and in a disease like pulmonary tuberculosis, where retching may bring on hæmoptysis, it is wiser to give up the treatment.

All these undesirable sequelæ may be minimised by the proper preparation of the patient, which is a simple matter. On the evening before injection the patient receives a laxative pill, and next morning a small dose of white mixture to ensure an action of the bowel without severe purgation. The patient remains in bed and is allowed for breakfast a cup of tea, one boiled egg, and two thin slices of bread and butter. We usually make the injections about 11.30 A.M. and an hour before a drink of glucose lemonade containing 6 dr. of glucose is given. At 1 P.M. a cup of clear soup is given, and if the temperature is normal and the patient well at 3.45 he is allowed up, provided, of course, that he is not confined to bed on other grounds. Our patients return to bed at the usual hospital hour (8 P.M.) and continue next day on the grade of rest or work which they happen to have reached.

Hitherto we have only had a couple of cases of immediate reaction—both after intramuscular injections—and we have not been troubled by the other risks mentioned. In choosing preparations for experiment we have made use of a well-known brand of the "914" type of arsenobenzol for intravenous injection, and of "sulfarsenol" for intramuscular medication. At the outset it was supposed that the intramuscular method would give the better results owing to its slower and more prolonged action. This has proved to be the case, so that only one or two patients have had full courses of intravenous arsenic. The sulfarsenol was dissolved before use in a solution consisting of pure anhydrous glucose 5 per cent., and guaiacol 0·5 per cent. in distilled water, and injected into actual muscle tissue in the upper and outer part of the buttock.

The intravenous arsenic was given in weekly doses of 0·3 or 0·45 g. up to six injections, the course being repeated after an interval of a month in some cases. Sulfarsenol was given intramuscularly in three different dosages, the second proving the most useful—viz., a purely tonic course of six to eight injections weekly from 0·12 to 0·24 g., a similar series of 0·30 g. after a smaller trial dose, and a course of bi-weekly injections such as might be used in treating syphilis. It is, perhaps, unnecessary to add that the urine must be tested for albumin before treatment is begun, and again for albumin and bile before each injection.

Pain after intramuscular injections is negligible so long as the injection is into actual muscle and the part is well massaged afterwards; no patient has refused or objected to the treatment.

Results of Treatment.

In estimating the value of this or any other forms of treatment in pulmonary tuberculosis, we are fully conscious of the difficulties met in a disease where the unexpected so often happens; where patients appear to get well without special measures, or having improved for a time, fall back without any discoverable cause. The cases selected have been few, but, with the exception of one, were sputum-positive; and so far as possible they have represented various stages and grades of the disease. All were afebrile, or nearly so, at the beginning of treatment. Only a dozen cases have been treated so far, three of whom were benefited sufficiently to warrant a second course. All showed various degrees of improvement except two, and these have both exhibited physical signs of extending disease. One has gone home as unlikely to benefit by further sanatorium treatment; the other has remained a patient with a reasonable hope of ultimate arrest. Both cases showed an increasingly positive complement-fixation test, and if this is to be interpreted as an increase of antibodies in the blood (increased resistance) the effect of treatment may have been more favourable than we supposed, since a negative C.F.T. occurring in a *pronounced* case of pulmonary tuberculosis usually suggests that resistance has, for a time at least, broken down.

The principal effects noted are those which one would expect from arsenic, but they have been obtained more rapidly and in a more marked degree than in control cases treated with liquor arsenicalis added to emulsion of cod-liver oil or with Blaud's pill with arsenious acid. After each dose there is an increasing tonic effect, a feeling of well-being, sharper appetite, and returning strength. The improvement in the appearance, colour, and weight of the patient is very marked. Anæmia disappears more rapidly than under routine sanatorium treatment. Diminution of sputum and decrease in the number of tubercle bacilli present therein, however, are only in accordance with the improved general condition. That is to say, these organic preparations of arsenic have no direct lethal action upon tubercle bacilli in any way comparable to their action upon spirochætes. In one case of double infection where intravenous treatment was carried on despite several attacks of hæmoptysis, it was noted that these accidents were not followed by any pyrexia or physical signs of spread. It is possible, therefore, that the injections may have exercised some retarding influence. The fact that the patient knows that something definite is being done for him must not be lost sight of, and the "ritual" demanded by the treatment is probably beneficial in itself—at any rate it acts as a wholesome brake on the tendency found in most sanatoria on the part of both attendants and patients to hurry too much over the rest period.

Another point of interest is that the majority of patients have shown an increasingly positive C.F.T. The significance of this is uncertain; does it mean increasing resistance? We do not suggest that the injection of organic arsenic should be used as a routine in the treatment of pulmonary tuberculosis, or that it is suitable for general use outside institutions. What may be claimed is that it is an excellent method of exhibiting the drug where it seems indicated, particularly where there is pronounced anæmia, or where vaccines are to be questioned on account of extent with activity, or again in the type of case often met with which makes some headway in a sanatorium and then "hangs fire."

Also, one may add, there need be no hesitation in treating actively cases of double infection with benefit to both conditions. In the case of young adults with limited lesions, who would do quite well no doubt under ordinary sanatorium treatment, we have been struck with the more rapid progress made when organic arsenic is given. If the period of hospital treatment can be shortened safely, something is gained both for the working-class patient and the ratepayers.

The following cases illustrate various points:—

CASE 1.—W. A., aged 29, admitted Feb. 19th, 1923, sputum +++, C.F.T. ++−, W.R. −−−, well-marked disease both upper lobes and right lower lobe where it was progressing. Obtained limited benefit from sanatorium treatment and then came to a standstill with the disease spreading slowly. Intramuscular sulfarsenol begun June 22nd (six small weekly injections, total 0·97 g.). Treatment stopped on account of immediate reactions. Disease has ceased to spread. Sputum much diminished and bacilli found with difficulty. C.F.T. +++. Patient is still in the sanatorium and is carrying out the highest grade of manual labour easily.

CASE 2.—F. A., aged 20, admitted June 4th, 1923, sputum +. C.F.T. −−−, W.R. −−−. Limited involvement of right apex, with considerable loss of weight and anæmia. Systemic factor readily controlled by rest. Sulfarsenol intramuscularly was begun on the 22nd (eight injections at weekly intervals, total 1·51 g.). As improvement was considerable, a further course (total 2·30 g.) was given a month after the first. Patient has lost his anæmia entirely and gained 19 lb. C.F.T. −−−. There is still a little sputum which has been repeatedly negative. Physical signs of disease are detected with difficulty and the condition appears to be arrested. Patient is doing the highest grade of manual labour with ease. L. D., aged 19, was a similar, but more extensive case, both lobes of the right lung and probably the left apex being affected. C.F.T. −−−, sputum +. He was given eight injections of sulfarsenol (2·34 g.), treatment being begun before he was quite afebrile. He has gained 26 lb. and is able to do an intermediate grade of outdoor work without disturbance. The sputum remains + and the C.F.T. is +−−.

The next illustrates the value of organic arsenic in diagnosis.

CASE 3.—The patient, a male aged 27, was admitted with a history of hæmoptysis a few weeks before and also while on service in France. Both hæmoptyses had been between 8 and 10 oz. There was impairment at the left apex with rather harsh breath sounds and chronic laryngitis. Sputum negative, C.F.T. −−−, W.R. +++ (repeated). A skiagram did not afford any assistance. There was no history of specified disease, and no other signs or symptoms to help one in arriving at a definite diagnosis. Before being placed on arsenical treatment, he had had a short trial under general sanatorium routine with no particular result. He was given a full course of sulfarsenol intramuscularly (3·54 g. arranged in 12 injections) and biniodide of mercury by the mouth. The symptoms cleared up entirely and his general health improved markedly. The W.R., as might be expected, remained +++ and he was transferred to another department for further treatment as an out-patient.

The following case is included to show the value of organic arsenic in a case of extensive lung disease with activity.

CASE 4.—L. J., aged 28, admitted May 12th, 1923. Sputum +++, C.F.T. ---, W.R. ---. The patient had glands removed from the neck in 1916 and again later. He first came under observation for lung disease in 1922. On admission he showed extensive old-standing disease of the left lung with chronic dry pleurisy and more recent active disease at the right apex. Although he was an excellent and obedient patient, two months sanatorium treatment failed to accomplish any real improvement—both temperature, weight, and general condition remaining variable despite absolute rest. Sulfarsenol was begun July 19th (eight weekly intramuscular injections, total 2·34 g.). At the end of this course he had gained 15 lb., the temperature was nearly level, sputum +, and C.F.T. ++-. The right apex was still active, but the left lung showed evidence of healing and the pleurisy had disappeared. After a month's rest, a further course has been given (six injections, total 1·65 g.). The total gain in weight is 18 lb. and the patient states he has not been so well for over a year. The sputum is tending to decrease and bacilli are less numerous. This patient is by no means "out of the wood," but we feel that arsenic has helped him very definitely. This, too, is just the type of case in which vaccines might do incalculable harm. The alteration in the C.F.T., which has been checked several times, is interesting. At the moment of writing the patient is suffering from a little renewed activity in the right side and the C.F.T. has fallen to ±--.

Conclusions.

The administration of the organic compounds of arsenic is a valuable measure in cases of pulmonary tuberculosis where arsenic seems indicated. The intramuscular route is preferred.

The types of case suggested for this treatment are:—

(1) Cases of extensive disease with some activity, where one would hesitate to use vaccines, but where there remains some prospect of producing arrest or extreme chronicity.

(2) Cases which "hang fire" after a period of sanatorium treatment.

(3) Cases in young adults with anæmia and loss of weight, but otherwise favourable. It is thought that the period of institutional treatment may be shortened.

(4) Cases of double infection — syphilis and tuberculosis.

(5) As a therapeutic test in doubtful cases of lung disease. With simple precautions there is no risk; the mischief which may follow tuberculins cannot occur.

The improvement obtained is due to a general stimulation of the metabolic functions of the patient; there is no specific effect upon the bacilli. Organic arsenic does not pretend to be another new cure for tuberculosis.

Medical Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

The Prevention and Treatment of Congenital Syphilis.

A MEETING of this section was held in the Royal College of Physicians, Dublin, on March 14th, Dr. N. M. FALKINER, the President, being in the chair.

Dr. T. P. C. KIRKPATRICK opened a discussion on the prevention and treatment of congenital syphilis, dealing with the results he had obtained at the Lock Hospital and Dr. Steevens' Hospital, Dublin. He pointed out the difficulty there was in arriving at an accurate estimate of the incidence of congenital syphilis, but adduced figures taken from the returns of the Registrar-General for Ireland to show that the number of deaths from syphilis of children under a year old was the main determining factor in the total number of deaths recorded from that disease in Ireland. In addition to the loss of infant life, congenital syphilis was the cause of many disabilities in young adults. Dr. Kirkpatrick pointed out the importance of the Wassermann reaction as an aid to diagnosis in young people who do not present obvious stigmata of the disease. 114 syphilitic women who had come under observation had become pregnant of 148 pregnancies. Of these pregnancies 107, or 72·2 per cent., had resulted in healthy children, 22 in syphilitic children born alive, and 19 in dead syphilitic children or mishaps. In none of the failures had the women attended for sufficient treatment. The treatment advocated was the intravenous administration of some of the 914 preparations of arsenic, and the one generally used was N.A.B. Repeated doses were given during pregnancy and the administration controlled by Wassermann reaction of the blood. The results of the treatment of 63 congenitally syphilitic children was also considered. Dr. Kirkpatrick recommended the use of N.A.B. even in young infants, and detailed the history of several patients treated. His remarks were illustrated by lantern slides of charts of the women and children treated.

Dr. GIBBON FITZGIBBON said that before a department for the treatment of venereal diseases had been started in Dublin, he had treated many cases of syphilis with intravenous injections of N.A.B., and he had found that nearly always if he treated during pregnancy a woman affected with syphilis and whose W.R. was positive the child was born alive, and generally without any evidence of the disease. From time to time patients turned up at the Rotunda with a history of repeated death of the fœtus, who, when examined, showed absolutely no cause for the death of the fœtus, but when a Wassermann test was done it proved fully positive. After this, during the next pregnancy, these patients were treated with N.A.B. injections, and had living and perfectly normal children. The children were normal at any rate at birth, but of course it was very hard to follow up their subsequent history. Recently a woman had come back to the hospital who had been treated with N.A.B. injections during the previous pregnancy two years before, and the child had been born living and healthy, and had remained healthy since. Dr. Kirkpatrick's descriptions of the cases of syphilis which he treated conformed with his experience of cases which he had treated at the Rotunda Hospital.

Dr. L. L. CASSIDY said it would be interesting to know why so many cases aborted before the fourth month of pregnancy, and yet most careful examination of the patients showed no signs of syphilis whatever. In his experience not more than 3 per cent. of those mothers gave a positive Wassermann reaction. The main mortality during pregnancy in syphilitic patients seemed to occur after the fourth month, and very often in cases in which there had been no primary symptoms whatsoever. One sometimes came across patients with syphilis which only developed at the age of about 45 or 50, when the menopause took place. He thought that this type of syphilis was a very important one, and one which should be recognised in gynæcology. He would be glad to know if, in Dr. Kirkpatrick's opinion, in cases of death of the fœtus before the fourth month of pregnancy the carrier of infection could be the spermatozoa.

Dr. V. M. SYNGE was interested to hear that Dr. Kirkpatrick did not consider congenital syphilis was very infectious. He, personally, thought that it was. Dr. Kirkpatrick had also said that a child with congenital syphilis had its general resistance lowered, and was very likely to get infected with tubercle bacilli and other bacteria. He himself had seen a large number of cases of congenital syphilis, and he had never seen one which had developed tuberculosis. He asked whether cases which did not show any obvious clinical signs of syphilis, which were apparently quite healthy and yet in which the blood Wassermann was positive and the cerebro-spinal fluid negative, should be considered as being affected with syphilis, and if such cases should be vigorously treated in the

same way as cases which had definite symptoms of congenital syphilis. He also asked how much N.A.B. should be given to children with congenital syphilis and how long the injections should be continued. Should mercury be given as well, or was N.A.B. alone sufficient for every case? If after treatment for some time the patient's W.R. remained negative, was it justifiable to say that that patient was cured? He, personally, did not think it was. He thought the only real test was if the child in after life developed syphilis. Could a woman with active signs of syphilis give birth to a healthy child?

Dr. PUGIN MELDON said that when a woman came to him just after pregnancy for treatment he continued treatment with arsenical preparations, and he made every woman nurse her child, as he found that, although the arsenic was not excreted in the milk, some substance was excreted which had a beneficial effect on the child.

Dr. J. W. BIGGER said that as a pathologist the point that interested him most was the results of blood-tests which were performed on cases of congenital syphilis. The figures mentioned by Dr. Kirkpatrick were extremely convincing of the good results of the treatment of syphilis. He, personally, was of opinion that the W.R. in cases of congenital syphilis was just as reliable as in the cases of ordinary syphilis, and he did not think that there was really much difference between congenital and acquired syphilis. The tendency in congenital syphilis might be to get longer latent periods than in acquired syphilis, and during the latent period in either disease one might get a negative W.R., but this certainly did not mean that the patient was cured, and in cases of congenital syphilis it was necessary to keep a watch on the patient longer than was necessary in cases of acquired syphilis In cases where the W.R. was considerably positive (and where one felt sure that no error had been made), and especially if there was a consistently positive sigma reaction, the case should be regarded with the greatest suspicion, and should be given the benefit of treatment by one of the arsenical derivatives.

Dr. W. C. MACFETRIDGE said that lesions of congenital syphilis were often found at an advanced age, though many people held that they were not found after the age of 20. In connexion with ocular lesions one found them frequently in patients up to 60 years of age. Dr. Kirkpatrick, in his paper, attached great importance to treatment by arsenical preparations. At the Eye and Ear Hospital, although a great many of these cases were seen, patients with iritis, &c., very few of the surgeons at the hospital used arsenical preparations when treating these cases. He, personally, had never used them. This, however, was a point about which there was a great diversity of opinion. Some people in the treatment of ocular lesions said that arsenical preparations were of great value, while others said that they were of no use at all. He wondered if it was safe to treat cases of optic neuritis and optic atrophy with arsenical preparations; some ophthalmic surgeons said that in such cases arsenic should certainly not be used. He, personally, thought it would be safe to use them if the man who was giving them was very experienced in their use. Mercury was of great aid in the treatment of optic cases.

Mr. R. R. LEEPER said that the question of the latency of syphilitic infection was an interesting one. One sometimes found patients who had had syphilis and remained pretty well after treatment, although not cured. These patients sometimes had healthy families, with no sign of mental disease, but yet years after the patient developed G.P.I. He wondered where the spirochæte was in the body during all these years. In G.P.I. patients spirochætes would be found all through the brain, but not in the spinal fluid.

Dr. R. H. MICKS said that it was in the treatment of very young infants that most difficulty was experienced, as it was so hard to find a vein to inject the arsenic into. He had found milk injections very helpful, also mercury.

Dr. KIRKPATRICK said, in reply, he agreed with Dr. FitzGibbon that it was very difficult to trace the source of infection in women who had syphilis and who produced syphilitic children. He thought that probably the syphilitic lesions were suppressed, especially in women who were pregnant. It was noticed that women who had syphilis often improved very much in their syphilitic conditions when they were pregnant. The question of how the infection was carried to the fœtus was a very difficult one. If a woman became affected with syphilis only at the times of pregnancy, the course of disease was greatly modified, and sometimes stopped altogether. It would be impossible to lay down definite rules about the length of time for which N.A.B. injections should be given. As long as the patient's W.R. was positive, and as long as the injections had no bad effects, he would give at least three courses of injections and perhaps more. If after this the W.R. was still positive, it generally meant that treatment would not do any good in that particular case. It was also impossible to lay down definite rules as to whether the giving of N.A.B. did harm to patients with optic atrophy and optic neuritis or not. In some cases perhaps it did, but he had seen some cases in which it had done a great deal of good.

SOCIETY FOR THE STUDY OF INEBRIETY.

AT a meeting of this Society on April 8th, with Mr. C. J. BOND, F.R.C.S., in the chair, Dr. BEDFORD PIERCE delivered an address on Mental States in Alcoholism, an abstract of which we publish on p. 841.

In the discussion which followed the paper, Sir ROBERT ARMSTRONG-JONES said that while questions of ætiology were very difficult in general diseases such as arterio-sclerosis and nephritis, they were even more difficult in mental disease. He considered that alcohol was an important cause of insanity, that chronic delusions of a sexual nature were always due to alcoholism, and that paramnesia was invariably of alcoholic origin. Alcohol was first a stimulant and then tended to remove the inhibitions and restraints imposed by education. He objected to the limitation of instincts to the three mentioned by the lecturer—herd, ego, and sex—and was disposed to think there were as many instincts as primitive desires. Sir Robert Armstrong-Jones quoted the Commissioners of the Board of Control, who called alcohol "brain poison," and said that in his experience at Claybury, 20 per cent. of the male and 10 per cent. of the female admissions were clearly attributable to alcoholic indulgence.

Dr. PERCY SMITH referred to the fact that alcoholism was responsible for a large proportion of the most dangerous patients under care. He spoke of the crimes committed in automatic unconscious states, and of the difficulty of persuading legal authorities that such things could occur. He also spoke of the failure of the Inebriate Acts to control persons addicted to drink, and of the dangerous practice of giving alcohol to children, at the risk of their addiction to it in later life.

Dr. W. ASTEN mentioned the irritable disposition met with in many inebriates, and the difficulty of discussing treatment with them without giving offence. He asked whether this touchiness preceded or followed the alcohol addiction.

Dr. W. M. FELDMAN remarked that among Jews alcoholism was rare, while mental disorder was relatively common. On the other hand, there was reason to believe that mental deficiency, prostitution, and alcoholism were all recessive Mendelian qualities; and this suggested some connexion between them.

Dr. T. N. KELYNACK alluded to the influence of suggestion in producing results. In many experiences where alcohol was commonly considered to be of service it seemed probable that the mere drug action of alcohol played but a minor part. Generally speaking, he believed that many of the medico-sociological advantages claimed for the use of alcohol, both in health and disease, were really due to the psychological action of so-called suggestion.

Reviews and Notices of Books.

THE LAW RELATING TO LUNACY.

By Sir HENRY STUDDY THEOBALD, K.C., M.A., Hon. Fellow of Wadham College, Oxford; lately a Master in Lunacy. London: Stevens and Sons. 1924. Pp. 890. £2 10s.

WELL-ESTABLISHED legal text-books renovated in successive editions cover so much of the ground over which lawyers have to travel in the practice of their profession that it must demand no little courage on the part of the author to become, as it were, the founder of a new one. The courage of Sir H. S. Theobald, handicapped by blindness, needs no comment, but rather the recollection that his qualification for his task is derived from 15 years' experience as a Master in Lunacy, following upon many years of practice at the Bar. His example will long be remembered. The work he has compiled, shorter by about 150 pages than the monumental "Archbold," contains all that is essential for the lawyer's guidance in studying any but the most abstruse points in connexion with lunacy law and practice, and he has found space for the introduction of interesting references to the history of his subject. Medical practitioners, however large their liabilities may appear to bulk at the present date, are chiefly concerned with lunatics as patients, after certification has taken place, and they will find all that they need know as to the legal position of lunatics clearly set out and explained in chapters on the care and treatment of the insane, including one entitled Miscellaneous Provisions. If they care to glance at the non-essential pages of the book they may be interested to trace the origin briefly outlined of the Royal prerogative now exercised by the Lord Chancellor, and having its probable source in rights over the property of the mentally defective summarily taken from the feudal lords by Edward I., or they can study the evolution of legal patronage in a chapter on the Masters in Lunacy, the office held from 1907 to 1922 by the author. It is not more than 65 years ago that Master Winslow was said to have "had peculiar views as to the proper destination of committees' balances in which the Lord Chancellor did not concur. Master Winslow resigned." His successor, too, was unfortunate. Sidney Herbert wrote to Mr. Gladstone, "Poor Thesiger has got into a dreadful mess in appointing his son-in-law (little Higgins) a Master in Lunacy." Master Higgins, who held office for two months only, was a clerk in the Colonial Office, whose legal qualifications were confined to his having married the Lord Chancellor's daughter! However, Sir Henry Theobald is charitable in his observations on the exercise of patronage which "savoured of excessive zeal in the service of relatives or friends," and observes that outside critics rarely know all the conditions of what may seem at first sight to be a political job. "Even Lord Chancellors," he suggests, "deserve the benefit of the doubt." One of the best known names among those of former masters, to students of Victorian literature, was, of course, Samuel Warren, author of "Ten Thousand a Year" and "The Diary of a Late Physician." "It has been said," writes Sir Henry Theobald, "that he drew a good deal of the latter book from the contents of affidavits in lunacy. Unfortunately for the story the book was published before he became a master."

DER AMYOSTATISCHE SYMPTOMENKOMPLEX.

By Dr. A. BOSTROEM, Privatdozent for Psychiatry and Neurology in the University of Leipzig. Berlin: Julius Springer. 1923. Pp. 205. 7s. 6d.

A RECENT edition to the excellent series of monographs in neurology and psychiatry edited by Profs. O. Foerster and K. Wilmanns is devoted to a consideration of the syndrome called by Strümpell "amyostatic," a term indicating sufficiently a "muscular astasia"—i.e., involuntary movements—with the corollary, variation in muscular tonicity. Dr. Bostroem, accordingly, is concerned with athetosis, chorea, and what he designates the "Parkinson-Westphal-Strümpell-Wilsonsche Krankheitsgruppe" in a somewhat omnibus fashion. Characterised by much erudition and a due appreciation of the contributions of others, this monograph is suggestive and thought-provoking in its main outlines, though its division of the amyostatic complex into the three groups of chorea, athetosis, and the above-mentioned disease class is obviously open to criticism. Further, some of the author's statements in reference to what he calls, briefly, "Parkinson-Wilson" are misleading if not erroneous—e.g., he holds that "involuntary spontaneous movements" are wanting in that group—a curious reading of the facts. The view that associated movements do not occur in the same class of case is also misleading if, as appears, the implication is that they are present or increased in the others, and that this may be used as a means of differentiation.

LE CERVEAU ET LA PENSÉE.

By HENRI PIERON, Professor at the Institute of Psychology of the University of Paris. Paris: Felix Alcan. 1923. Pp. 326. Fr.10.

THE age-old problem of the interrelation of brain and mind is approached afresh by Prof. Pieron in succinct and readable fashion. Undeterred by the trend apparent in certain quarters towards a complete cleavage between mind and its organ, he pleads for a closer approximation of physiology and psychology, pointing out with truth how frequently the exponent of the latter science is unfamiliar with the data of neuro-physiology and the rich material of the neurologist. He would have a dynamic psychology taking its place in the comity of the sciences, collecting and examining objectively the finest and most delicate reactions of cerebral activity. Chains of neurones form without question the "functional circuits" of thought, and within them exist systematised "groups" suggesting the reality of "centres" of a psychological order. The application of physiological method can illuminate not a few processes commonly called "mental"; this is particularly the case with the phenomena of speech. Prof. Pieron reaches no special conclusion, and studiously avoids any type of special pleading; but no reader of unbiased mind will fail to appreciate the force of his contention, that the activities of the human mind should be investigated from the physiological side no less than from the psychological.

THE UNSTABLE CHILD.

An Interpretation of Psychopathy as a Source of Unbalanced Behaviour in Abnormal and Troublesome Children. By FLORENCE MATEER, A.M., Ph.D., Psycho-clinician in the Ohio Bureau of Juvenile Research. London and New York: D. Appleton and Co. 1924. Pp. 471. 10s. 6d.

Dr. Mateer has passed beyond the optimistic assurance that a diagnostic classification or a mental age test, of which the Simon-Binet stands as a type, is more than a reliable means of systematising observation. The problem of the psychopathic child is different from that of the feeble-minded, for educational or social crises occur in individuals whose mental age may be equal to or above the physical age. This book is an account of the work done and difficulties met in the Bureau to which the author is attached, and it rouses an uncomfortable feeling that in this country such work is almost non-existent. The author holds out the promise that, however great may be the needs and difficulties, the psychopathic child has potentialities and will repay care as no feeble-minded can. But this care involves more than correctional treatment carried out without understanding of the condition. Of such treatment she writes: "We check his reactions, add another load of fear, worry, shame, resentment, more

inferiority, and new grievances against all in authority. . . . It is only the elasticity and resiliency of the child mind which keeps any of them from a re-enforced and more extreme type of behaviour."

The subject is handled on broad lines. It indicates the scope of the book when Dr. Mateer presents evidence that congenital syphilitics show a recognisable type of psychopathy peculiar to themselves, while she takes full advantage of whatever modern psychological methods have to offer in the study of individual cases. There is a pleasing modesty throughout the writing; the author makes no attempt to disguise the many perplexities, and yet offers plenty of useful material and observation.

ST. ELIZABETH'S HOSPITAL.

Clinics and Collected Papers of St. Elizabeth's Hospital, Richmond, Virginia. Vol. I., contributed by the Staff. London: Henry Kimpton. 1923. Pp. 560. 37*s.* 6*d.*

THIS book contains 66 papers written by the staff of a small hospital which only includes six medical members. It therefore represents a large output from individuals. A feature is the collection of articles on the management of the hospital. A great deal of thought has obviously been given to this side of the subject, an example which might well be followed by many nursing homes in this country. Only a few of the scientific papers have appeared elsewhere. They cover a very wide range of subjects, and a breadth of view runs through them which is undoubtedly related to the fact that extreme specialisation, such as has occurred in some hospitals, does not exist at St. Elizabeth's. The book is well illustrated and repays perusal.

JUNIOR REGIONAL GEOGRAPHIES.

Book III. The Regions of the World. By W. H. BARKER, B.Sc., F.R.G.S.; and LEONARD BROOKS, M.A., F.R.G.S. London: University of London Press. 1924. Pp. 272. 2*s.* 9*d.*

THIS is the third of a useful series which, when completed, will form a general regional study of the world as a whole. All practised teachers agree that before attempting to impart detailed knowledge of continents and regions, their pupils should obtain some general notion of the world in which these continents are set. This volume gives a very good idea of the world as a living unit, and will be of use not only to the young pupil but also to the adult whose grasp of the relations and interrelations of the world is not as fresh as it was; indeed, quite advanced workers along special lines will find here useful information when they come to think of their subjects internationally—and this is the spirit in which many pathological problems must now be approached. Chapters on the industrial regions of Europe and of North America are especially valuable. Nearly one hundred well-chosen illustrations enhance the text.

INTERNAL DERANGEMENTS OF THE KNEE-JOINT.

By A. G. TIMBRELL FISHER, M.C., F.R.C.S. Eng., Surgeon (with Charge of Out-patients), Seamen's (Dreadnought) Hospital, Greenwich; Assistant, Surgical Unit, University College Hospital, London. London: H. K. Lewis and Co., Ltd. 1924. With 80 illustrations. Pp. xii. + 144. 12*s.* 6*d.*

IN this monograph the author has presented his subject after a critical re-investigation of the fundamental, anatomical, and pathological principles which underlie the lesions grouped under the heading of internal derangements of the knee. The first part deals with the pathology and surgery of the semilunar cartilages and constitutes a safe and sound essay in itself. In the second part other varieties of internal derangement are considered, and in this section is incorporated much of the valuable original work recently carried out by the author in connexion with the pathology of loose bodies, and the pathogenesis of osteoarthritis.

The monograph deserves high commendation. To the author's own exceptional knowledge of the anatomy and pathology of the whole subject is added—in the form of foot-notes scattered throughout the book—a wealth of clinical experience derived from Sir Robert Jones. Sir Arthur Keith writes a foreword.

JOURNALS.

JOURNAL OF PHYSIOLOGY. Edited by J. N. LANGLEY, Sc.D., LL.D., F.R.S. Vol. LVIII., Nos. 4 and 5. Cambridge University Press, March, 1924. Pp. 259–372. 10*s.*—Chelonian Respiration (Tortoise), by Thomas Lumsden. The author finds that the respiratory centres in this animal are the gasping centre at the apex of the calamus scriptorius, the expiratory centre just above this, and the apneustic centre above the level of the fourth ventricle. There is no evidence of the existence of a pneumotaxic centre, and the vagi do not appear to have any tonic-regulating effect on the respiration. Moreover, the respiratory needs of the tortoise are so slight that under ordinary conditions a single inspiration may last for two to three hours. The respiratory rhythm is more powerfully affected by variations in the temperature of the cells composing the respiratory centres than by variations in the activity of the general metabolic processes or in the gases respired. When, however, the temperature is constant, the amount of CO_2 in the blood appears to be the chief factor in the regulation of normal respiration.—G. V. Anrep and H. N. Kahn deal with the metabolism of the process of reconstruction of the submaxillary gland in the dog. They find that the recovery of an exhausted gland under normal conditions is a slow process; it takes three days for the gland to recover completely after a large secretion. Paralysis of the secretory fibres of the chorda tympani by atropine does not influence the rate of recovery. The recovery of the gland after extirpation of the superior cervical ganglion is accelerated. The experiments do not support the theory that the sympathetic nerve has any "trophic" influence on the submaxillary gland under normal conditions.—The Mutual Influence of Secretory Stimuli in the Submaxillary Gland of the Cat, by E. E. Goldenberg. In anæsthetised cats, two successive stimuli were applied to the gland itself, to its nerves, chorda, and sympathetic, with variation of the length of the interval of stimulation. Augmented secretion can be obtained by successive stimulation of the same or of the two secretory nerves, and an augmented vaso-motor effect—dilator or constrictor—can also be obtained by two successive stimulations of the same nerve.—P. M. Jurist and B. A. Rabinovitch find that the excitability of both sympathetic secretory and vaso-motor fibres of the submaxillary gland of the cat after section of the nerve in the neck is lost in from 41 to 48 hours.—The Nerve Fibre Constitution of the Nerves of the Eye, by M. Nakanishi. In the cat and sheep most of the post-ganglionic ciliary nerve fibres are somewhat larger (3·6–4·5μ) than the pre-ganglionic fibres (about 3μ). The nerves entering the ocular muscles have fibres of all sizes from 3μ to 17μ. The relative number of the fibres of different size is not very different, but the 3–6μ fibres are rather fewer than either the 6–5–10·5μ or 11–17μ fibres. The relative number of medium-sized fibres is greater than in the anterior roots of the spinal nerves. The greater part of the non-myelinated fibres of the sixth nerve run to the retractor bulbi; all the nerves entering the striated muscles have a few non-myelinated fibres; non-myelinated fibres also run to the eye by the long ciliary nerves; most of the non-myelinated fibres can be traced to blood-vessels.—Variations in the Sensibility to Pressure Pain Caused by Nerve Stimulation in Man, by R. C. Shawe.—The Effect of Insulin on the Oxygen and Carbon Dioxide Tensions in Air between the Skin and the Muscles, by J. Argyll Campbell and H. W. Dudley. Atmospheric air was injected under the skin of an unanæsthetised rabbit and left there until

the CO_2- and O_2-tensions had come into equilibrium with the tensions of these gases in the tissue spaces. In the case of CO_2 this occurred in about an hour, the tension being at about 40 to 50 mm. Hg. The O_2-tension equilibrium was not established until 36 hours after, when the tension was 20–30 mm. Hg. Equilibrium once established the tensions usually remained fairly constant for one animal over long intervals of time—months. It was found that after subcutaneous injection of insulin in normal rabbits that the curve for O_2-tension in air between the skin and the muscles follows the blood-sugar curve; the effect appears to be localised, and is not due to constriction of blood-vessels. Insulin also causes an increase of CO_2-tension in the same region, which lasts as a rule only a couple of hours.—On the Blood Phosphate After Insulin Convulsions, by L. B. Winter and W. Smith. It is known that the inorganic blood phosphate is diminished as a result of injecting insulin into rabbits, and this fall also occurs in the treatment of diabetes mellitus in man by injection of insulin. Animals may be recovered from insulin convulsions by means of glandular extracts. The authors have made a careful study of the inorganic blood phosphates after insulin convulsions in rabbits. These animals can be recovered from convulsions by means of glucose, adrenalin, adrenalin and thyroid extract together, and pituitary extract. After adrenalin the inorganic phosphate usually regains the normal level quickly, but falls again. After pituitrin the effect is variable. After glucose the normal value is not regained for a considerable period.—Mitral Insufficiency, by D. T. Barry. The author has studied mitral lesions in the dog, using the heart-lung preparation, but this communication deals chiefly with a case of heart affection in the human subject. The paper is illustrated by some normal and abnormal optical records of the heart, and venous and arterial pulses are shown from human beings and from the heart-lung preparation of the dog. Records of mitral regurgitation in man offer evidence of leakage occurring in the early or so-called presphygmic period of systole. Those of artificial lesion in the dog afford similar evidence. The volume of fluid regurgitated is in some measure accountable for the time in which back-flow occurs, and this is especially so when the difference between auricular and ventricular pressures is marked. Some evidence is provided that the auriculoventricular valves are finally sealed as a result of the ventricular pressure. A mechanical explanation of the condition of pulsus alternans by alternating efficiency of the mitral valve is suggested without prejudice to the view that it may occur from inherent fluctuation of muscular function.—Some Variations of Capillary Diameter and Antidromic Action chiefly in the Web of the Frog's Foot, are recorded by Soroku Oinuma.—Other papers include the Interrelation of Parathyroids, Suprarenals, and Pancreas, by G. A. Clark, in which some interesting observations on the actions of guanidine on the blood-sugar in rabbits, the antagonism between it and calcium, and the results of parathyroid administration when given with guanidine or some time before. Three papers on muscular work—viz.: the Maximum Realisable Work of the Flexors of the Elbow, by T. E. Hansen and J. Lindhard; the Effect of Fatigue on the Relation between Work and Speed in Contraction of Human Arm Muscles, by A. V. Hill and others; on the Influence of Speed on the Mechanical Efficiency, by E. P. Cathcart and others, together with two papers on Renal Secretion—Secretion as a Factor in Elimination by the Bird's Kidney, by E. B. Mayrs; and Localisation of Excretion in the Uriniferous Tubule, by J. M. O'Connor and J. A. McGrath.

BRAIN. Vol. XLVI. Part 3.—The Pathology of the Parkinsonian Syndrome following Encephalitis Lethargica, with a note on the Occurrence of Calcification in this Disease, by Douglas McAlpine. The histological findings in two cases are described; subacute inflammatory changes and recent perivascular hæmorrhages were found. The substantial nigra was implicated in one but not in the other case. Calcification in the anterior part of the globus pallidus was found in six cases of encephalitis lethargica, in one case as early as the fourth day of the disease.—On Variations in the Form of Reflex Movement, notably the Babinski Plantar Response, under Different Degrees of Spasticity and under the Influence of Magnus and De Kleijn's Tonic Neck Reflex, by F. R. M. Walshe. In the presence of a high degree of extensor hypertonus the hip and knee components of the flexion reflex were reduced very considerably, while the Babinski plantar response was less affected. Rotation of the head towards the hemiplegic side, increasing hypertonus, leads to shortening of the extensor response or may even abolish it; this is rightly claimed to be a point of practical importance.—On Cerebellar Localisation, by Sven Ingvar. This is a valuable review of recent work together with a record of two original cases. The author divides the cerebellum into three lobes—anterior, middle, and posterior. The ponto-cerebellar fibres pass to the middle lobe, the spino-cerebellar and the vestibular fibres to the anterior and posterior lobes. A regional representation has been demonstrated only in the middle lobe, the anterior part of which is related to the upper limb and the posterior to the lower. The functions of the anterior and posterior lobes are related to the body as a whole and not to any special segment of it. The paper gives a good impression of the way in which the problem of the cerebellum has been attacked in recent years along the paths of anatomy, comparative anatomy, embryology, physiology, and pathology.—The Occurrence in Osteitis Deformans of Lesions of the Central Nervous System, with a Report of Four Cases, by W. G. Wyllie. In two cases the disease produced so great a narrowing of the spinal canal that a compression paraplegia resulted; this was relieved by laminectomy in one case. Optic atrophy without any other change in the fundi is recorded in two further cases.

Public Health Services.

MENTAL HOSPITALS SERVICE.

MANY important structural improvements, some now in progress and others to be undertaken during the present year, are referred to in the annual report for 1923 of the *City of London Mental Hospital, Dartford*. These include new verandahs, a dining hall for the staff, an additional ward for acute cases, an operating theatre, an X ray plant, and a laboratory. As in former years, parole has been granted on an extensive scale, no less than 86 patients being given outside parole, and 54 leave of absence for varying periods. Another interesting feature of the life of this hospital is the conduct of the church services; the choir and congregation are partly composed of visitors from outside, a circumstance naturally regarded as preventing patients from feeling that they are cut off from the general community. A further step has been taken in encouraging mixing of the sexes among the patients in the church, instead of placing the women on one side of the aisle and the men on the other. The malarial treatment of general paralysis has been tried in eight cases, and, although no definite conclusions as to its efficacy were arrived at, three of these patients have since been discharged. This treatment was also employed in 27 cases of dementia præcox. Some improvement was noted during the pyrexial stage, but "when this was terminated by quinine the patients relapsed into their former state." It will be extremely interesting if this treatment is found to influence any other disease than general paralysis, but the fact that syphilis and malaria are both due to protozoa, affords some sort of rational basis for its employment in general paralysis, whereas in other varieties of insanity the mere effect of fever per se offers the only hypothesis as to its possible action.

There are many mental hospital reports which consist almost entirely of statistics, but there is only one which consists solely of the medical superintendent's report, the feature to which the reader looks for insight into the working of an institution. This is the annual report of the *Royal Hospital, Morningside, Edinburgh*, and Prof. G. M. Robertson, in describing its work in 1923, deals, as usual, with a number of problems which are engaging the attention of the profession and of the public. Several changes have taken place or are contemplated at Morningside. The proposal that an out-patient clinic should be established there has been modified; in order that no prospective patient shall be deterred by an aversion for asylum associations, this clinic is to be established at the Royal Infirmary under the direction of Prof. Robertson, and a social worker is to be employed. If legal difficulties can be overcome, it is hoped to establish in the near future a psychopathic hospital for voluntary patients; this will be on the Morningside estate, but with a separate entrance, and otherwise distinct from the existing institution. The value of coöperation with the University is also illustrated in a new arrangement whereby in exchange for a grant towards a lectureship in neuro-pathology, the professor of pathology in the University will direct the work of the Morningside laboratory. A series of cases of general paralysis has been treated, with satisfactory immediate results, by malaria inoculation, and it is next proposed to treat this disease with tryparsamide, the General Medical Council having asked the hospital to investigate the utility of this drug. The recent decline in the admissions of general paralytics has been maintained, and Prof. Robertson offers an ingenious explanation of the fact that this decline has been greater among females than among males. Among the questions of more general interest treated in the report are criminal responsibility, the limitations of Christian Science and spiritual healing, the experience of hallucinations by sane persons, and the dangers of "spiritualism." In connexion with the latter, Prof. Robertson points out that not only are people made insane by spiritualistic practices, but undoubtedly the converse may take place, an individual may be drawn to spiritualism as a means of accounting for abnormal mental experiences which are being passed through. A vivid example of the former class, the "Monomania of Unseen Agency," is described, in which the patient having attempted by various means, and with no very serious purpose to "get into communication with the unseen," began to be tormented by voices, and eventually suffered from confirmed hallucinations of almost every sense. Such cases, which are not by any means rare, should be a warning of the danger which spiritualism involves for anyone with a latent tendency to nervous disorders. The hospital runs a journal of its own, and the "Morningside Mirror," several recent copies of which have reached us, maintains its high standard of topical and literary interest.

In the annual report for 1923 of the *Glengall Mental Hospital, Ayr*, the medical superintendent, Dr. G. Douglas McRae, again deplores the delay which commonly takes place before sending mental cases for treatment. Of the admissions in the year under review, only 16 per cent. of the men and 7 per cent. of the women arrived within three months of the onset of their illness, and in many cases the duration of the illness before admission was much longer. Apparently the euphemisms "neurasthenia" and "nervous breakdown" often embody the excuses offered by relatives for the delay in these cases. On the other hand, he deplores the certification of advanced senile dements, who not uncommonly die within a few weeks or months of admission. "It seems pitiable that such cases of senile dissolution cannot receive nursing attention in their own homes." A marked improvement in the average standard of physical health at the time of admission is greeted with less enthusiasm than might at first be expected, on the ground that "an unhealthy mind in a healthy body is found by experience to be a very incurable form of insanity." There is, however, "an unusually large proportion of decrepit and bed-ridden cases" in the hospital, and the death-rate from tuberculosis is more than doubled. No mention is made of the extent or existence of facilities for isolating these cases. A very pleasant innovation is a nine-hole golf course which has been laid out in the grounds during the year.

INFECTIOUS DISEASES IN ENGLAND AND WALES DURING THE WEEK ENDED APRIL 12TH, 1924.

Notifications.—The following cases of infectious disease were notified during the week, namely: Small-pox, 122; scarlet fever, 1522; diphtheria, 654; enteric fever, 44; pneumonia, 1853; puerperal fever, 43; cerebro-spinal fever, 7; acute poliomyelitis, 2; acute polio-encephalitis, 1; encephalitis lethargica, 206; dysentery, 6; ophthalmia neonatorum, 120. No cases of cholera, plague, or typhus fever were notified. The cases of encephalitis lethargica were notified in the following counties: London, 23; Chester, 5; Derby, 10; Durham, 6; Essex, 8; Gloucester, 9; Lancaster, 25; Middlesex, 4; Northumberland, 10; Nottingham, 4; Stafford, 5; Warwick, 30; Yorks, W.R., 47; and elsewhere in smaller number.

Deaths.—In the aggregate of great towns, the deaths from influenza fell from 403 to 316. In London the deaths from diphtheria fell to 6, and those from measles, which had been 62 in the preceding week, rose to 66 last week. The deaths from influenza in London further fell to 28 last week.

New Inventions.

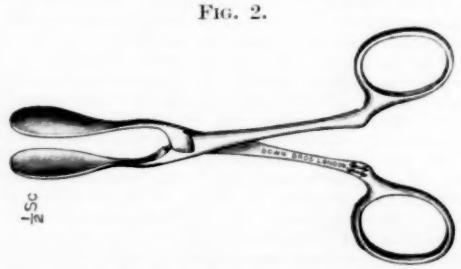
TWO NEW SWAB FORCEPS.

Two patterns of forceps which I find very useful—one a spring swab forceps (Fig. 1) and the other bow-handled (Fig. 2)—have recently been made for me. Aided by an ordinary dressing forceps they are used

FIG. 1.

to pick up and squeeze out moist pledgets. They have been designed primarily to replace the fingers when dressing wounds, obviating thereby (1) the necessity for gloves when doing this, and (2) the danger of contaminating the lotion by repeated immersions of the bare hand, as is so often done. At operations they are useful for manipulating mops or for picking up such vulnerable tissues as a loop of intestine or the appendix. For the latter purpose the gripping surface

FIG. 2.



is best provided with wide grooves. The bow-handled forceps is provided with ratchets to enable a swab once gripped to be retained so that it may be laid aside and picked up again as the operation proceeds. The essential element in the spring swab forceps is the lightness of its spring, which should respond to the least touch and not tire the fingers at all. These forceps may well be made of rustless steel.

Messrs. Down Bros., London, are the manufacturers.

Colombo, Ceylon. R. L. SPITTEL, F.R.C.S. Eng.

The Conduct of Medical Practice.

A Series of Articles by Experts dealing with the Difficulties Encountered in Professional Life and How to Meet Them.

XVI.—MEDICAL SECRECY.

BY HUGH WOODS, M.D.,
GENERAL SECRETARY, LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

"If ever you betray what you are entrusted with, you forfeit my malevolence for ever; and your being a simpleton shall be no excuse for your locality."
—SHERIDAN, *The Rivals*, Act i., Scene 2.

IF a man promises to keep secret the information which is imparted to him, and fails to do so, he is rightly regarded as untrustworthy or dishonourable. Patients, when consulting their medical advisers, do not ask for a promise of secrecy, because it is understood that medical practitioners are, in any case, pledged to keep secret what comes to their knowledge through the practice of their profession. Were it not so, patients would no doubt make a rule of exacting a pledge of secrecy from their medical attendants beforehand. A medical practitioner must consequently be regarded as bound by an implied promise of secrecy unless he has definitely informed his patient beforehand that he will not accept this obligation. It is, however, rightly assumed that a patient is aware that his doctor is legally bound to report cases of infectious disease to the proper authorities, to give a certificate of the cause of death, and, in general, to give such information as he is by law required to give. Apart from legal compulsion, the obligation of secrecy is absolute, and is one which admits of no laxity.

Where Secrecy is Conditional.

The only circumstances under which any violation of the rule of secrecy should be contemplated are those which may sometimes occur when the maintenance of secrecy would allow a crime to be committed which could be prevented by a departure from the rule. In such a case the patient should first be definitely warned that secrecy will only be maintained if this can be done without the crime being committed. If this warning is disregarded, the medical adviser is placed in a very difficult position. The patient may repudiate altogether the intention which he has previously admitted, and, in the absence of clear legal evidence of such intention, the medical adviser may find himself charged with libel or slander of a very grave kind as a result of his departure from the rule of secrecy.

In Cases of Venereal Disease.—It has been contended that when a man, who is known by his medical adviser to be suffering from syphilis in an infectious stage, is about to marry, a warning ought to be given to the woman who might otherwise innocently contract the disease. The wickedness of such procedure should be plainly impressed upon the patient, but it is not the duty of the doctor to give information of his patient's condition, and the objections to his doing so outweigh the considerations which might lead him to try to prevent the marriage by disclosing what has come to his knowledge professionally. If such breach of secrecy were right and proper, it ought to be openly authorised by the rules of the medical profession; since otherwise a medical man when incurring serious risk from a sense of duty is prejudiced by an apparent breach of faith to his patient, who, under present circumstances, would certainly regard it as such, and not without reason. The objections to any refusal to observe secrecy in cases of the kind render it altogether inadvisable. A patient, who was capable of the conduct indicated, would consult someone—probably not medically qualified—who would have no scruples about keeping the matter secret, and patients, who would otherwise have been guided by their doctors as to the avoidance of risk, would also be afraid of taking into their confidence medical advisers whom they felt unable to trust. If a medical adviser is justified in divulging the fact that a patient has syphilis, why should he not give information when a patient is about to marry who would in his opinion not be likely to have healthy children, or is a drunkard, or otherwise objectionable? Obviously such procedure would soon bring a medical practitioner's career to an ignominious end, and do vastly more harm than good.

In Cases of Criminal Conduct.—It not infrequently comes to the knowledge of a medical man, in his practice, that a patient has been guilty of criminal conduct; and some would contend that he becomes to some degree an accessory if he fails to give information to the police. Called to attend a patient suffering from the results of criminally procured abortion, it may be said that secrecy on the part of the medical attendant tends to the encouragement of this offence; but so, to some extent, does his success in mitigating the consequent illness of the patient. If the doctor could not be trusted, the patient would try to deceive him, notwithstanding the grave danger to herself if she succeeded. In fact, cases do occur in which this happens even under present circumstances. It is justifiable, although not a definite duty, to urge the patient to give evidence voluntarily against a person who has procured abortion for her, but, without her free intelligent consent, her medical attendant should not betray the confidence reposed in him in order to check criminal practices of the kind.

In the Case of Death, the law does not permit secrecy, and it cannot be maintained. Even then it not uncommonly will happen that legal proof of criminal abortion will be wanting, and resentment will be aroused against the doctor for bringing discredit upon his deceased patient. Where death has not occurred a statement that abortion had been criminally induced, if not capable of strict legal proof, might involve the doctor in an action for damages for slander, or libel, and such action, if successful, would, in view of the betrayal of confidence involved, probably entail vindictive damages.

Information Desired by Interested Parties.

Employers, solicitors, insurance companies, and others frequently apply to medical practitioners for information about patients, for which they offer payment. Information should never be given without a patient's consent, or in the case of a deceased patient, that of the proper representative. An employer asks a doctor to see a man employed by him, and undertakes to pay the fee. He then asks for the doctor's opinion of the man's state of health, and it may thoughtlessly be given to him. If, as a result of this, the man is discharged, the action of the doctor will be strongly resented, and, if the diagnosis can be called in question, an action for damages may be the consequence. Even though the communication is privileged, there is risk of the protection thereby afforded being ineffective on the ground of legal "malice." Juries sometimes find that there was malice on strangely inadequate grounds, when their sympathies are with the plaintiff, as they often are in these cases. For instance, the medical officer of a friendly society forwarded to the friendly society a certificate implying that the ailment from which a patient was suffering arose from his misconduct. The patient was, by the rules of the friendly society, deprived of the payment which he would otherwise have received. He brought an action for damages, and the jury found, on very unsatisfactory medical evidence, that the doctor's diagnosis was wrong. The judge ruled that the certificate was a privileged communication, but the jury found that there was malice on the doctor's part, and damages were given against him. The evidence on which the jury found that there was malice was to the effect that the doctor and his patient had, several years

previously, taken opposite sides in a controversy in a local newspaper. This showed how little trust can be safely placed in the protection afforded by privilege. To avoid the risk thus involved by giving a certificate that may cause loss or damage to a patient, the certificate should be handed to the patient, so that he can forward it or not as he chooses. If he does not forward the certificate, the medical practitioner is not responsible for any consequences arising from the absence of a certificate, and, if it is forwarded by the patient, the certifier has not published it to a third party, and therefore, even if it were a libel, no claim for damages could successfully be made against him.

The Safeguard of Habitual Reticence.

Where there is no apparent reason for secrecy, medical practitioners are apt to fall into the habit of giving information freely to relatives, friends, and employers about their patients' ailments. One serious consequence of such a habit is that when secrecy is obviously imperative the unwonted refusal of information may do the patient as much harm as the giving of it, by causing surmises as to the reason for unusual secrecy. There are many cases in which a doctor is placed in an awkward position, requiring considerable tact on his part if he is to avoid personal discredit or loss. A mistress asks the family doctor to see a servant-girl who is indisposed, and she expects to be told what the doctor thinks is the nature of the ailment. Should it happen that a disclosure of the diagnosis made would probably lead to the servant's dismissal, it would obviously be wrong to report the diagnosis to the mistress without the patient's consent, and silence, or refusal to give information, may be damaging both to the patient and the doctor. If strict secrecy had always been the rule of the medical attendant his position will be much less difficult, and he will simply refer the mistress to the patient to whom he has already given his opinion. Where the mistress ought to be informed of the patient's condition, the subject should be discussed with the patient, who should be advised to do what is right under the circumstances. Information should in no case be given to the mistress, or anyone else, without the patient's free consent, and care should be taken that proof of such consent is available, if it is acted on. In the case of lunatics, or children, information such as is needed for the proper care of a patient should be given to the persons in charge.

Professional Secrets in the Witness-Box.

It is to be regretted that the law in this country does not forbid a medical attendant to betray professional secrets in the witness-box. It is not sufficient that he should be at liberty to refuse to do so if he chooses, because if it were optional the refusal to give evidence might be regarded as implying that there was something which the patient wished to conceal, and it might consequently be prejudicial. In the present state of the law a medical man cannot be expected to expose himself to possible penalties by refusing to give evidence in violation of professional confidence when directed to do so by a judge, but the better part of the medical profession would support and approve of such refusal in suitable cases; and, if a firm stand were taken by the medical profession in the matter, it is unlikely that any prolonged conflict would be required to establish in the law courts a recognition of the duty of medical secrecy. It must, however, be remembered that it is the patients, and not their medical advisers, who would derive advantage from the prevention of the revelation of medical secrets in the witness-box. To patients suffering from venereal and other diseases it may be ruinous if their condition is made public to the world by the simple process of extracting information on the subject from their medical advisers in the witness-box. The dread of such a disaster undoubtedly affords an opportunity for blackmailing without resorting to any criminal procedure. The unwilling medical witness is a common feature of divorce proceedings, since his evidence, in addition to supporting the petition for divorce, will often do irreparable injury to the reputation of his patient. Doctors naturally dislike being used for such purposes, but it seems strange that the public allow themselves to be constantly victimised in this way when they have full power to put a stop to it. A medical man is much less likely to be subpœnaed as a witness if it is quite unknown to the solicitors concerned what his evidence will be, and it is sometimes his own fault when they are aware of it beforehand.

INCOME-TAX ALLOWANCE FOR MOTOR-CAR REPLACEMENT.

SEVERAL correspondents have asked for help in drawing up income-tax returns so as to obtain the allowance for motor-car replacement. Typical difficulties are the following:—

SIR,—I bought a car in 1921 for £365. It was a Crew Ford underslung Ford with an English body, the first car I had owned. A year later I sold this car for £95, and purchased a Morris Cowley for £314. I have now sold this Morris Cowley for £150 and am buying a Humber 11·4 h.p. for £460. I have never claimed income-tax allowance on the purchase of the Morris Cowley, although the Inspector of Taxes has consented to repay the difference between the £95 and £314, considering it as a replacement. But he quibbles over allowing income-tax reduction on the difference between the purchase price of the new Humber (£460) and the selling price of the Morris Cowley (£150) on the grounds of the increased capital outlay. In other words, he does not consider substituting a Morris Cowley by a Humber a "replacement," particularly as the present market price of the Morris Cowley is £198. I would be glad if you would let me know my position in this matter.

SIR,—I bought a second-hand Standard car 9·5 h.p. in August, 1921, for £337 10*s.*, and sold it in April, 1923, for £115. On the latter date I bought a new 12 h.p. Austin car for £460. To what relief of income-tax am I entitled?

Where a motor-car is used for professional purposes, as was pointed out in a recent article,[1] a curious anomaly exists. The right to claim wear and tear is confined to traders and manufacturers, so that whilst a business man is allowed a deduction for depreciation of the car employed in his business, a doctor, whose practice equally necessitates the use of a car, cannot claim the same deduction. On the other hand, a claim may be put in for the renewal of a car, but only to the extent of the value replaced, less the amount received on sale or exchange. The question which now arises is: What is the replacement value which may be claimed? Is it the original cost *or* the renewal cost, less amount received on sale? The Royal Commission considered that the allowance for renewals should be calculated by reference to the cost price of the machinery replaced, thus putting it in the same position as the allowance for depreciation. But this proposal is regarded as the basis of legislation, while the actual practice at present is to give renewals strictly on the basis of the cost of such renewals. Applying these principles to the concrete case stated by our first correspondent, the allowance is calculated as follows, assuming that the new cars were similar to those sold:—

1922.—New car (Morris Cowley)		£314
Less sale Crew Ford		95
Allowance		£219
1924.—New car (Humber)		£460
Less sale Morris Cowley		150
Allowance		£310

If, as appears probable, the Humber was of superior type and value to the car displaced, the increased value would be disallowed as being an addition or improvement and not merely maintenance of the previous value. The same principles apply in other cases.

[1] THE LANCET, Jan. 12th, 1924, p. 81.

THE LANCET.

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THE CURSE OF THE TROPICS.

IT is probable that there are few folk in this country who have not, at some time or other, felt the fascination of the tropics. Countless British boys have experienced it during the breathless perusal of tales of adventure, for those vast regions which stretch between Cancer and Capricorn have for long been realms of high romance. To those who love the study of Nature and who delight in superb scenery the call of the tropics is insistent, for where is Nature so bountiful, and where can more varied majestic and beautiful landscapes be found than within what is often called, not perhaps too correctly, the torrid zone? To the merchant adventurer the tropics have ever appealed as a rich field for exploitation, as a veritable El Dorado, and indeed much of the actual and potential wealth of the world lies in those lands of the sun. The sportsman looks upon many a tract of the tropics as a paradise; the missionary is lured to hot climates by his or her craving for change and adventure, coupled with a desire to carry a gospel message to benighted heathen; the invalid, fleeing from the rigours of a British winter, seeks either the sub-tropics or the tropics themselves, and revels in bright sunshine and an immunity from icy blasts and showers of sleet and snow. In the tropics the soldier and the sailor see service under guises new and strange but withal attractive—at least for a time, while the merchant seaman comes and goes in our argosies of commerce, linking the far-flung, tropical possessions of the Empire with the Homeland and with each other. Such is one aspect of the tropics and of tropical life. Another is to be found in the need of this country for the produce of those territories which have been explored and exploited by her sons throughout the centuries, many of which they have tamed and reclaimed, most of which they have benefited, and in all of which they have left their bones. The enormous importance of the tropical dependencies of Great Britain from the commercial standpoint will be manifest at the Empire Exhibition, and there also something will be seen of their inhabitants, of their scenery, of their history. The exhibit will form a token of their loyalty to the Mother Country, of their dependence upon her and her dependence upon them.

But there is yet another aspect, not the least important and, in some ways, the most interesting, which happily receives attention and which will surely attract attention within the precincts of Wembley. Housed in the British Government Building there is a Tropical Health Section, the chief features of which are described elsewhere. No one who visits this graphic display of tropical medicine and hygiene can fail to be impressed by it; but few, it is to be feared, will realise to the full what it signifies and what tragedy and romance lie behind it all. There is manifested the tragedy of millions of lives lost for lack of knowledge, of naval and military expeditions wrecked, of vast treasures wasted, of notable and promising enterprises abandoned. There is a tragic burden of inefficiency, sorrow, misery, and despair, tales of which are scattered through many books, and which has left its mark, not solely in the form of graves, throughout the length and breadth of the tropical world. There is much of tragedy in the shape of lost opportunities, in the strangling hold of vested interests, in the stupidity, folly, and pig-headedness, aye, and wickedness, of those who opposed progress, who were deaf to the claims of science, who did their best to set back the clock. On the other hand, there is an element of romance in the strivings of devoted men to solve the mysteries of tropical disease, in the astonishing results they achieved, in the marvels they revealed, in the many contests they had to wage with doubters and traducers. Again, there is abundance of romance in the application of the knowledge gained and the transformation effected by such application, in the war waged, not only against disease and death, but with human pride and ignorance, prejudice and selfishness. Altogether tropical medicine is an amazing business, and most of it has been crowded into the last 30 years. But it would be a mistake to view the exhibits at Wembley merely in the light of an historical pageant. The burden of which we have spoken still exists, doubtless infinitely lighter than of yore, but for all that pressing heavily on many of our tropical possessions. Blessed in many respects the tropics have their disabilities. From the European standpoint the climate is trying, exhausting, sometimes almost unbearable, there is often an acute sense of isolation; the surroundings are frequently irritating, monotony may make for melancholy, the molehill with marvellous celerity becomes the mountain. Yet, excepting possibly climate in some of its aspects, all these trials and troubles sink into insignificance compared with the presence of disease. Disease is the true curse of the tropics: it militates against their conquest by man and has in the past defeated him time and again. In the old records it is strange to read how men groped in darkness, attributing tropical maladies, as, for example, malaria and yellow fever, to all kinds of causes—miasmata from marshes, effluvia from decomposing material, atmospheric disturbances, and even to celestial displays like comets. It is, moreover, pitiful to note how, when someone more enterprising or enlightened than his fellows, a SUSRUTU, a RUSH, a NOTT, a BLAIR, a BEAUPERTHUY, a FINLAY, or a KING, advanced a theory which we now know approached the truth, little or no notice was taken of his hypothesis, and when it was not actually ridiculed it was soon relegated to the limbo of forgotten things.

These men were in advance of their times, and it was not until new conceptions on protozoology and entomology had been evolved, and the microscope and the laboratory had begun to take a serious part in the fray, that any real progress was forthcoming. Once, however, LAVERAN and MANSON had led the way, the path in respect of malaria was open for ROSS to commence his brilliant and unforgettable researches; open in one sense, but beset with difficulties and obstacles in another, for he, like others before and after him, was the victim of official stupidity and neglect. The Italians played their great part, and the mystery of malaria transmission was solved. As a direct result the Americans grappled with the problem of yellow fever, and with the loss of some valuable lives wrested the secret which "Yellow Jack" had for so long managed to conceal. But the Americans went farther. They realised and appreciated the great opportunity vouchsafed to them, and, fired by that idealism which so often spells success, they set out to obliterate the disease altogether.

What is more, they have well-nigh succeeded, and the burden of yellow fever has been almost lifted from the New World. Yet on the African West Coast the disease still lingers and flares out at intervals, while apathy and a false economy tolerate the presence of its mosquito vector. At the same time it may be admitted that the problem on the eastern side of the Atlantic is in some respects different to that upon the western, so that an equitable comparison cannot easily be drawn. Meanwhile malaria still remains the second or third great killing disease of the world, dysentery slays outright or makes miserable wrecks of men and women, cholera sweeps away the unwary, plague claims its victims in thousands and hampers commerce, ankylostomiasis saps the energy of native labour, leprosy makes pariahs and outcasts of hapless sufferers, and sleeping sickness, far from asleep, takes toll of the African negro. Yet in every instance we know the why and the wherefore of these maladies, and to a very large extent could and should extend our mastery over them. In many cases a great deal has been accomplished—how much no one can say who has not made a study of the past with its truly appalling records, who has not read of veritable armies of men disappearing as the result of epidemics, of thousands of young and promising lives cut short on the threshold of the tropics, of the crippled beings, a mere remnant of those who had sallied forth, returning from India and elsewhere with ruined constitutions, a burden to themselves and to their country. The wonder is that any survived, and that acquired immunity can be such a potent force as it has proved itself to be. It would, however, be a bad business if we had still to rely upon acquired immunity; and, though it will continue to play its part, its beneficent action must be reinforced by measures based on a sound knowledge of tropical pathology. In certain directions there is good cause for especial satisfaction. New light has been thrown upon plague by NORMAN WHITE; leprosy, thanks to Sir LEONARD ROGERS, is to be attacked upon a scale never hitherto attempted, the parasites of ankylostomiasis and sleeping sickness are being countered by new and surprisingly effective remedies, leishmaniasis is controlled by tartar emetic, yaws has been conquered by the organic arsenicals and bismuth, and schistosomiasis has yielded to antimony and emetine.

So far so good, but in other directions the outlook is somewhat depressing. Malaria in many places still defies us, largely because we do not take it seriously and spend enough upon its suppression; dysentery in its chronic form remains an enigma as far as treatment goes; the epidemiology of cholera eludes us, while in many hygienic directions our tropical possessions lag behind the times and pay a corresponding penalty. Let us then welcome the Tropical Health Section at Wembley. It should excite interest and create enthusiasm. Not only does it furnish information regarding the cause, nature, and treatment of many tropical diseases, but it shows, by models and otherwise, how we have learned to safeguard the public health in those lands beyond the sea. In this all-important and humanitarian work men of our race and lineage have played a notable and a noble part, and it is fitting that in the great display of the Empire's resources there should be emphasised those disease factors which exercise a malign influence upon those resources and their exploitation. We welcome this record—a fascinating record—of what has been accomplished by the combined efforts of the clinician, the laboratory worker, and the hygienist.

RADIOGRAPHY OF THE RIGHT HYPOCHONDRIUM.

OF recent years much attention has been given to the diagnosis of affections of the upper abdomen from data obtained by the use of X rays. Whilst gastric diseases soon yielded to the systematic investigations of the radiographer, many difficulties prevented the development of a technique for demonstrating the presence of affections of the duodenum and gall-bladder. A stage has now been reached when, with a considerable degree of certainty, disease of these organs can be predicted on the results of radiography alone. This has been brought about particularly by the work of COLE, CASE, GEORGE, and LEONARD in America, and of HOLLAND and KNOX in this country. These observers concentrated their efforts upon the direct, as opposed to the indirect, signs relied upon almost exclusively by continental workers. Now, however, it is widely conceded that direct evidence is obtainable and extremely valuable. Yet in spite of the demonstration of such possibilities the inherent difficulties of the subject have prevented the rapid communication of the technique to radiographers in general. To take the duodenum first. It is not always possible to visualise this part of the alimentary canal after a barium meal by a simple antero-posterior exposure. The duodenum may be behind the gastric shadow, so that it can only be seen in a lateral or oblique view. The contrast meal remains for but a short time in the first part of the duodenum, from which it is expelled at intervals by a peristaltic contraction rapidly through the rest of this viscus. It thus happens that it is necessary to select the right moment to photograph the duodenal cap, whilst demonstration of the second and third parts is often a matter of chance. The choice of the right position and the appropriate time for the exposure is essential, but once this has been done the shadow of the duodenal bulb can afford much information. Irregular distortion, a niche or incisura may give clear evidence of duodenal ulceration, but two facts must be borne in mind: a duodenal ulcer may be present with no deformity of the cap; irregularities from periduodenitis may depend upon disease, not of the intestine itself, but of the neighbouring gall-bladder. There is considerable liability to error also if a proper filling of the duodenal bulb cannot be induced, for appearances almost exactly simulating those resulting from disease may obtrude themselves. When the barium delays in the second and third parts of the duodenum, the chronic ileus, described in this country by WILKIE as due to compression by the superior mesenteric artery, is nearly always present. Gall-bladder affections afford even greater problems when their demonstration by X rays is essayed. The density of gall-stones is so nearly that of their surroundings that a nicety of adjustment of the penetration of the rays to the case in question is of prime importance. With care in this respect, the use of intensifying screens and rapid exposures, a considerable proportion of gall-stones will throw recognisable shadows. But not only can disease of the gall-bladder be detected in this way; it also frequently gives evidence by altering the contour of the duodenum or stomach or by fixing the upper jejunum or transverse colon. By taking account of both direct and indirect signs in 128 cases, A. W. GEORGE and R. D. LEONARD were able to arrive at a correct diagnosis of gall-bladder disease in 88·4 per cent., a nearly similar proportion of success being also claimed by PIERRE DUVAL. It is therefore clear that a new era of exactitude in the diagnosis of affections of the gall-bladder and duodenum has arrived, and it

only remains for spread of the knowledge to render these methods available to the general surgeon. For though these researches have now been proceeding for some years, it must be conceded that in the case of gall-bladder disease, at any rate, the assistance afforded by radiography in this country can only be described as meagre and inexact, except in the hands of a few experts.

PUBLIC HEALTH SERVICE IN THE UNITED STATES.

To appreciate the differences between the public health services of the United States of America and our own Ministry of Health two considerations have to be borne in mind. The first is that the United States is a comparatively new country with a population about double that of the United Kingdom, occupying an area of nearly 4,000,000 square miles instead of something over 120,000, and confronted with all our diseases and a great many besides. In the second place, the Federal Public Health Service has passed through an evolution very different from that of our Ministry of Health. It began over a century ago as the Marine Hospital Service, to provide treatment for sick and disabled seamen. The problem of protecting the States as a combined whole from the introduction of disease from without and of the protection of one State from another led to the establishment of foreign and inter-State quarantine departments. The experience thus gained by the Service led to its aid being called in by the various States and to the establishment of a research department, which is at present investigating practically every public health problem. That there is no parallel between the system of administration which obtains in Great Britain and that of America was emphasised in a recent Chadwick Lecture by Dr. CHARLES PORTER, who, under the health officers' interchange scheme of the Health Section of the League of Nations, visited the United States to study the public health problems of that country. Dr. PORTER comments on the American practice of centralising power. The President of the United States is the executive; the cabinet is his; he appoints the ministers, who are responsible to him and not to the elected body. He commissions all officers, including the U.S. Public Health Service officers, who are classed as military officers and have ranks corresponding to those in the Army Medical Service—Surgeon-General, and so on—and wear a uniform as and when it appears proper, on port and quarantine work, for example. In each of the individual States there is a chief executive, the Governor, who appoints the chief officers. In cities, in general, the mayor is the chief executive, the chief officers being his. In the health department the chief health officer, usually known as the Commissioner of Health, is the executive and he commonly makes the appointments to the subsidiary positions.

The great work carried out by the Federal Public Health Service is well shown in the report of Surgeon-General H. S. CUMMING for the year 1923.[1] In addition to the divisions for marine hospitals, foreign quarantine, inter-State quarantine, and research, there are divisions for sanitary reports and statistics, for venereal diseases and of personnel and accounts, each of the seven divisions being administered by an assistant surgeon-general. At the beginning of the year, the report states, there were about 200 commissioned medical officers on the regular corps, graded as senior surgeons, passed assistant surgeons, and assistant surgeons, in addition to nearly 1000 reserve commissioned officers on active duty. The total medical, scientific, and general staff at the end of the year numbered 9420. Members of this staff are loaned out on application to the various States and counties for conducting intensive sanitary surveys, for investigating various disease problems, for instituting local public health services in primitive regions at present lacking in such organisations, for setting in motion schemes of school medical inspection, and so on. All this pioneer work is largely helped by Federal grants-in-aid and by funds supplied by the International Health Board, formerly the Rockefeller Commission. General CUMMING reports that health conditions generally were as satisfactory as in recent years. Two charts show the wonderful decline in the mortality from typhoid fever and the steady improvement in the tuberculosis mortality since 1900 in the original registration States. The improvement in tuberculosis was interrupted in 1917 and 1918; these were also the worst years of the retrogression which occurred in England and Wales during the war. The venereal diseases division records that the occurrence of new cases was noticeably less in the year under review. A sharp outbreak of yellow fever in Colombia and the evidence of a high mosquito index in certain seaports in tropical America made it necessary to impose more stringent quarantine restrictions. On the other hand, the recognition of the Government of Mexico has been followed by improved sanitary conditions in Mexican ports and it has been made possible to remove some of the more stringent restrictions. As there has been no epidemic of yellow fever in the U.S.A. since 1905, there is now a very small percentage of immune persons in the Southern States. The Mexican border country is badly infested with the stegomyia mosquito, and a rigid watch has to be kept by the quarantine division along the land frontier to prevent clandestine crossing and the introduction not only of yellow fever, but also of small-pox and typhus. Human and rodent plague appear to have been eliminated, but the infection still remains in ground squirrels in California. General CUMMING emphasises the value of the medical officers of the service stationed in European, Asiatic, and Spanish-American ports, not only for the protection of the U.S.A., but for the prevention of delays to shipping when America is reached. Such officers will form the nucleus of the organisation required when Congress passes the much-needed laws providing for the examination of immigrants before embarkation for America.

Rural sanitation has been carefully investigated and the results show that the fundamental need throughout the rural districts of the United States is the establi hment of efficient local whole-time service of public health officials. Valuable anti-malarial investigations have been made as to the Paris-green method for the control of mosquito breeding in ponds and the creosote method for repelling mosquitoes from dwellings. Some idea of the larger activities of the division of scientific research may be gleaned from the following list of subjects, to each one of which an expert and a group of trained workers has been assigned: child hygiene, industrial hygiene, stream pollution, epidemiology and statistics, malaria and sewage disposal. Among the individual diseases studied have been cancer, clonorchiasis, diphtheria, dengue fever, Malta fever, pellagra, tuberculosis, typhoid fever, yellow fever, leprosy, Rocky Mountain spotted fever, and food poisoning; and among other topics mental hygiene, milk and public health administration. The functions of the U.S.A. Public Health Service are advisory and consultative rather than supervisory in relation to the various States, and the aim is to stimulate public health activity and to coöperate with the various State, county, and urban health services. It must, we fear, be admitted that the interests of public health hold a higher place in the minds of the people, or at any rate are more enthusiastically advanced, across the Atlantic than they are in this country. As an instance of this we might quote Dr. PORTER'S remarks on milk control. Milk control, he stated, was left almost entirely to individual States, and there was little doubt that, owing mainly to a determination on the part of both

[1] Annual Report of the Surgeon-General of the Public Health Service of the United States for the Fiscal Year, 1923. Washington: Government Printing Office. 75 cents.

local authorities and consumers to have a pure and clean milk-supply, and to coöperation by all parties, including producers, railroad and distributing companies, the conditions in the States were better than in this country, and the American consumer got a safer article. Factors contributing to this achievement were: propaganda, the driving of milk production into the hands of the farmer who was exclusively a dairy farmer, pasteurisation (about 98 per cent. of the milk sold in most cities is so treated), and bottling. Decrease amongst American children in tuberculosis of the bones and glands may be attributed largely to this improvement in the milk-supply. Public health workers in whatever sphere may draw instruction and stimulus from General CUMMING'S report.

Annotations.

"Ne quid nimis."

FOREIGN BODIES IN THE BRONCHI.

WE publish with this issue the third Lumleian Lecture by Dr. Thomas McCrae, of Philadelphia, professor of medicine at the Jefferson College, Philadelphia. Prof. McCrae has chosen for his lectures a unique subject, and in doing so he has grasped a unique opportunity. Nowhere else in the world has been collected such a series of cases of foreign bodies in the bronchi, and it is to the genius of Chevalier Jackson that the Jefferson College owes this proud distinction and a large group of patients their relief. More than 1300 cases have presented themselves with this dangerous and most distressing condition, often after other surgeons had attempted and failed to give them relief. Jackson has never once failed to remove the foreign body, usually in a few seconds and always by the bronchoscope. Probably only those who have seen Jackson at work can appreciate his uncanny skill, but all those who have read his book will realise the debt owed to him by humanity and by surgeons all over the world. They will appreciate at their true value the laborious care upon which such skill has been founded, and the generosity which has revealed to others the steps by which it was built up. Some of them, gifted with unusual common sense, will pay the highest possible compliment to the author by following his methods and emulating his skill. With admirable breadth of outlook Prof. McCrae has given to these cases a far wider meaning than that of a mere mechanical accident. The impaction of foreign bodies in the bronchi is rapidly followed by a series of profound pathological changes in the lungs, and from these pathological changes and their clinical manifestations lessons have been drawn of deep significance for both the physician and the surgeon. The lectures should be studied with care by all who are interested in lung conditions. They arouse an uneasy feeling that some of the cases which have baffled all our efforts at diagnosis and resisted all attempts at cure may perhaps be due not to chance infections but to the inspiration of gross foreign bodies. They open up a definite line of progress demanding the close coöperation of medical and surgical skill.

EPIDEMIC GANGRENE OF THE VULVA.

Dr. W. K. Stephansky [1] describes an epidemic of gangrene of the external genitals in little girls which occurred in a hospital at Odessa from December, 1922, to June, 1923. The disease had an acute onset and course accompanied with a high temperature. The morbid process usually started on the labia majora, less frequently in the neighbourhood of the anus or skin of the perineum. The first signs were redness, œdema, and pain in the labia, and in a few days small ulcers developed, which rapidly increased in size, involving the labia minora, clitoris, vestibulum, vaginal mucous membrane, perineum, and lower part of the rectal mucous membrane. In another three or four days moist gangrene set in. Aggravation of the general condition then ensued, and death took place in two to seven days with symptoms of septicæmia and toxæmia. The lesions were usually, but not always, symmetrical. The mortality was high. Of nine cases specially studied by Dr. Stephansky seven died. The disease generally occurred during or after measles, scarlet fever, or whooping-cough, but in one case the child had had no previous disease. All the children at the time of the attack were in a satisfactory general condition and well nourished. The following considerations show that there are no grounds for regarding the condition as identical with cancrum oris. In the first place, cancrum oris does not occur in previously healthy children, but only in those that are debilitated. Secondly, the onset is slow and insidious and all acute inflammatory phenomena, including high temperature such as were present in this outbreak, are absent. Thirdly, cancrum oris is almost always unilateral. Fourthly, in Dr. Stephansky's cases, the gangrene was superficial and destroyed only the skin and subcutaneous tissue, whereas cancrum oris extended not only superficially but deeply. No complete bacteriological examination was made, but smears of the necrotic areas showed fusiform bacilli and spirilla in all the cases. Diphtheria bacilli, which are frequently present in cancrum oris, were not found. Cultures of the blood on agar and broth, which were made in one case, proved sterile. Dr. Stephansky concludes that the condition described by him is not identical with cancrum oris, but is rather an acute epidemic disease sui generis, and possibly a new nosological entity.

[1] Deutsche medizinische Wochenschrift, March 7th, 1924.

TRANSIENT OPACITIES IN THE LENS.

Is it possible for slight opacities in the crystalline lens ever to disappear? Do they always tend to progress to the formation of a cataract requiring operation? To the latter of these questions every experienced ophthalmic surgeon will answer in the negative. To the former the answer will be by no means so unanimous. Many will tell us that as a matter of experience early lens opacities have disappeared, and some will cite cases in which, whether or not as the result of some special treatment, not only have the opacities disappeared, but sight has been materially improved. The article which we published on April 5th by Mr. Inglis Taylor is a remarkable case in point. He claims to have improved the vision in one or both eyes of some six or seven patients with cortical cataract, from 6/24 or worse to nearly, or quite, normal in the course of a few months' treatment by the external application to the eye of an ointment composed of a compound of calcium and iodine. This treatment is recommended by the French ophthalmologist Dor, and is based on the assumption that cataract is due to a hydration of the lens caused by the action of hydrating ferments in the blood. Whether this is true in all cases must be doubtful, but that the idea is fruitful and that the treatment has been efficacious in some cases seems to be proved by the details of Mr. Taylor's cases. The matter is one of great importance in which we need much further knowledge, both on the pathological and on the clinical side.

VARIATIONS IN THE SENSIBILITY TO PRESSURE PAIN.

BY stimulating the median nerve with faradic currents through electrodes—one placed about four inches above the wrist and the other at the wrist, and applying increasing pressure on the thenar eminence by the application of weights 6–8–10 kg.—the pressure pain threshold being determined by an æsthesiometer, R. C. Shawe [1] finds that weak faradic

[1] Journal of Physiology, vol. lviii., March, 1924.

stimulation of the median nerve, which caused a tingling sensation only, causes a marked lowering of the threshold of both cutaneous and deep receptors. This is accompanied by cutaneous flushing in the area of the hand supplied by the median, being especially noticeable in the index finger and thenar eminence. Very strong faradic stimulation, which could only be borne for a moment or two and evoked vigorous muscular contractions, raises the threshold in both cutaneous and deep receptors. It is accompanied by marked vaso-constriction in the palmar distribution of the median. The cutaneous receptors were excluded when necessary by freezing the skin with ethyl chloride. Faradic stimulation of the median nerve of a degree intermediate to the above caused a lowering of the threshold in the cutaneous receptors only. The changes were found to occur even if the circulation had been excluded for five to eight minutes, and therefore vascular change cannot be held to explain the sensory variation. Nor can changes in conductivity in the nerve fibres be held responsible for these results, because although strong currents may decrease conductivity, weak currents are not known to increase it. Observations on the contralateral side to that stimulated showed that during weak nerve stimulation there was a corresponding lowering of the threshold in the median and ulnar areas, which in some cases was associated with a flushing in the thenar region of the side stimulated and the opposite side. During very strong faradic stimulation the threshold was raised in both ulnar and median areas of the opposite side to that stimulated. The author concludes that the variations in the threshold of pressure pain caused by nerve stimulation are due principally to changes in the nerve cells with which the afferent fibres are connected.

THE MEANING OF FEVER.

LONG before the introduction of the clinical thermometer the meaning of fever was one of the most intriguing problems exercising the mind of the physician, and even when it became possible to measure degrees of pyrexia with accuracy but little light was thrown upon the matter. For many years a heightened temperature was regarded as evil in itself—very much as a heightened blood pressure quite usually is now—and in the treatment of febrile conditions the main line of attack was directed towards its reduction. Experience of antipyretic drugs led to some doubts as to the actual benefit to be expected from a mere lowering of temperature, and the pioneer experimental work of Rolly and Meltzer[1] showed that in infectious conditions some degree of pyrexia was certainly beneficial; the animals which they kept at fever heat were able to withstand infections fatal to normal controls. The light-hearted exhibition of antipyretics does not now hold a place in therapeusis, nor is the degree of fever looked upon to any great extent as an index to the gravity of the condition; none the less the why and wherefore of fever remains almost as much a mystery as ever.

Some little light has been thrown upon at least one aspect of the subject by Dr. Oliver Heath[2] in two communications recently made to the Royal Society of Medicine. Working partly upon himself with typhoid vaccines and partly upon typhoid patients, Dr. Heath has been able to obtain results indicating in a very clear and unequivocal manner that the course of fever runs parallel to the reduction below normal of antibody in the blood. Thus, on administering subcutaneously to himself 2000 million killed typhoid bacilli, he found that a rise of temperature to 100° F. was synchronous with a very considerable drop in the bactericidal power of his blood; the return of the temperature to normal on the day following the injection was associated with a restoration of the normal bactericidal power. Inoculation of doses of dead typhoid bacilli on ten successive days likewise produced irregular pyrexia, associated when the dose was sufficiently large with a demonstrable fall in the bactericidal titre of the serum; as in clinical typhoid fever there was no marked rise above the previous level of either the bactericidal or agglutinating power of the serum until about the tenth day. Dr. Heath suggests that an intensification of the experiment, by increasing the size and frequency of the doses, would have resulted in a continuous supernormal temperature and subnormal antibody titre, a condition which he believes to hold during the early days of a typhoid infection.

Numerous other observations are recorded, all going to show that fever is always associated with a reduction below normal of antibody in the blood. This, in itself, is a valuable observation. Dr. Heath interprets his evidence to mean that this reduction of circulating antibody is the actual cause of fever, and that the heightened temperature may be looked upon as in the nature of a systemic reflex designed to speed up the production of more antibody to replace that used up. The teleological attitude in pathology is beset with pitfalls, but on the evidence Dr. Heath seems justified when he recommends that the use of antipyretic drugs for the cure of fever should be discontinued.

[1] Rolly and Meltzer: Deutsch. Arch. f. Klin. Med., 1908, xciv., 335.

[2] Heath, Oliver: The Meaning of Fever, illustrated from Typhoid, Proc. Roy. Soc. Med. (S. Path.), 1924, xvii., 1–11. The Clinical Interpretation of Fever. A paper read to the Medical Section of the Royal Society of Medicine on March 25th, 1924.

PERISTALSIS AND MENTAL DISORDER.

IN the current issue of the *British Journal of Radiology* appears a short record by Drs. R. V. Stanford, Edwin Goodall, and Robert Knox of barium meal findings in 24 cases of mental disorder. The majority were recent cases and of a depressed type. As in a previous series published by these authors, the common findings were ptosis of the transverse colon, spastic contraction of the large bowel, and general stasis in the lower part of the intestinal tract. It is disappointing to find that the authors do not themselves comment on or analyse their results. Are these conditions of the intestinal tract to be regarded as a factor in the causation of insanity, or are they merely symptomatic? This appears to be a difficulty which would still have to be faced, even were a really characteristic abnormality demonstrable in every case of a certain type of insanity. For example, it might be asked: Is the patient melancholic because he is constipated, or is he constipated because he has melancholia? In a future communication from Cardiff Mental Hospital some answer to this question will be welcome. To return to the particular radiological findings, the abnormalities noted cannot be called characteristic; anyone familiar with X ray reports knows that ptosis and stasis are unhappily common in subjects whose sanity has never been in question.

ARTIFICIAL PNEUMOTHORAX STATISTICS.

IT is doubtful if the combined statistical evidence of many workers is as valuable as that of a single worker or institution, even if the figures of the latter are comparatively small. But on behalf of pooled statistics it may be claimed that individual lack of judgment and excess of enthusiasm are less likely to obscure the issue than when we have to depend on one worker for all our information. The problem is much the same as that of choosing a milk-supply from one cow or a large herd; if the one cow be diseased, it would be better for the consumer if he drew his milk-supply from a large herd with only one or two diseased cattle. A good sample of the large herd, or pooled statistics, is to be found in a paper by Dr. H. Maendl, of Grimmenstein,[1] who has collected the experiences of his fellow workers in much the same way that Dr. L. S. T. Burrell and Dr. A. S. MacNalty collected, under the auspices of the Medical Research Council, the work done in this

[1] Beiträge zur Klinik der Tuberkulose, 1924, lviii., 29.

country on artificial pneumothorax. Dr. Maendl addressed a questionnaire to 180 specialists and hospitals in Germany, Austria, Czecho-Slovakia, and Switzerland, and he obtained answers and statistically suitable information from 29 doctors. He was thus able to add more than 1000 cases to his own not inconsiderable material of 300 cases, and of the total thus obtained there were 1330 cases in which the treatment had been completed, the pneumothorax having been started 2 to 12 years earlier. With regard to the permanent successes achieved, there were 784 cases in which information on this point was obtained, and among them there were 524, or 66 per cent., in which the improvement effected had been lasting. It was so in 49 per cent. of 172 of Dr. Maendl's own cases. With regard to the significance of a pleural effusion complicating an artificial pneumothorax, he shares with Muralt and Koeniger the opinion that such an effusion may be a sign of good prognosis. Of 70 patients who were still alive from 2 to 12 years after the induction of a pneumothorax, 38, or 54 per cent., had developed a pleural effusion, whereas of 76 patients who had died only 28, or 37 per cent., had developed such an effusion while the pneumothorax still existed. Of 15 patients who had achieved clinical recovery, maintained for 2 to 10 years, as many as 11, or 73 per cent., had developed a pleural effusion. If a pleural effusion is really as beneficial as these statistics suggest, it would be natural to provoke such effusions artificially—and nothing would be easier with the help of a little tincture of iodine or other irritant—in the course of lung collapse treatment. But the case for such a procedure would have to be made out much more convincingly than it has been at present. It is satisfactory to note that there were only 15 cases of gas embolism, none of which terminated fatally, among the cases collected by Dr. Maendl.

MEDICAL PRACTICE BY FOREIGNERS IN BERLIN.

THE financial circumstances of medical practitioners within the German Republic are not at present so happy that free competition by foreigners is regarded with equanimity. As it stands, German law does not prevent foreign medical men from settling in Germany nor prohibit them from practising there; but the stipulation is made that they should not use any title identical with that of a duly registered practitioner or closely resembling it. Before the war the actual number of foreign practitioners in Germany not possessing German qualifications was insignificant, the foreign colonies in the country being of modest size and apt to consult the German practitioner. This condition was totally changed after the Russian revolution, when Germany—and Berlin in particular—was overcrowded with Russians who preferred to live outside their national jurisdiction. In certain quarters of Berlin at the present time more Russian than German may be heard spoken, and Russian shops, theatres, libraries, restaurants, and journals have sprung up in large numbers. It is stated that about 100 Russian medical men have settled in Berlin and practise among the large Russian colony there. A recent letter addressed to the *Berliner Aerzteblatt*, the official organ of the Berlin Medical Chamber, called attention to the fact that several Russian medical men in Berlin had private clinics of their own and were operating there with the assistance of registered German medical men. The writer suggested that Russian doctors were obtaining permission from the authorities to reside in Berlin on the plea of being political refugees. The Chamber, having approached the Government, was informed that no special residential facilities had been granted to foreign medical men, but that in several cases German doctors had let off part of their flats to Russian medical men as consulting-rooms. Further investigation was promised. In the meantime the Berlin medical profession is losing a great part of its pre-war income owing to the nearly total loss of Russian patients. Before the war these patients, flocking home from the western spas and health resorts, were wont to sojourn in Berlin to consult specialists there, whereas now they are permanently settled, they prefer to consult their own countrymen. The position is one which demands sympathetic handling.

INQUIRY INTO NITROUS OXIDE GAS.

IN view of the need for more accurate knowledge of the modes of action of various anæsthetic agents and of the impurities that may be associated with them, the Medical Research Council and the Anæsthetics Section of the Royal Society of Medicine have appointed an Anæsthetics Committee to initiate and direct investigations. The following have already undertaken to serve in this way: Dr. J. Blomfield (chairman), Dr. H. H. Dale, F.R.S., Prof. F. G. Donnan, F.R.S., Dr. C. F. Hadfield (secretary), Prof. M. S. Pembrey, F.R.S., Dr. F. E. Shipway. Among other subjects of study an immediate investigation is to be made into the nature and frequency of impurities that may occur in nitrous oxide gas. Nitrous oxide is now used for operations of considerable duration, so that impurities likely to have small effect during brief inhalation might be seriously toxic after prolonged use. At present there is no generally recognised standard of purity for nitrous oxide; it is not included in the British Pharmacopœia and is not subject to official tests. The nitrous oxide manufactured by the various British firms that supply it is of the highest quality, but from time to time reports of somewhat indefinite nature appear to show that toxic effects have been caused by the administration of what is generally briefly known as "gas." The suggestion that this toxicity may be due to some impurity in the nitrous oxide calls for examination, and the Committee are seeking any relevant information. It is requested that anæsthetists who can supply evidence of this kind in detail, and if possible the cylinder to which it relates containing any remaining gas, will communicate with the hon. secretary of the committee, Dr. Charles F. Hadfield, 47, Queen Anne-street, W. 1.

CARCINOMA IN A DIVERTICULUM OF THE BLADDER.

AT a recent meeting of the Brooklyn Urological Society, Dr. Augustus Harris, who reported an illustrative case,[1] remarked that the occurrence of carcinoma in a diverticulum of the bladder was extremely rare. Apart from about six cases in which the condition was not discovered until the autopsy, he had been unable to find a record of a single case. His own patient was a man aged 63, who had had gonorrhœa 25 years previously, and at the age of 62 had had an attack of hæmaturia for a few days, accompanied by retention for one day. Nine months later he began to suffer from intermittent hæmaturia, slowness in starting the act, and increased frequency of micturition. There was no pain, dribbling, or nocturia. He was rather pale and had lost weight. Vesical malignancy was suspected, and examination showed the presence of a dense filiform stricture in the bulbous urethra. There were 5 oz. of residual urine. The stricture was gradually dilated until, after eight weeks' time, full-sized sounds could be passed. Cystoscopy then showed a considerably inflamed and trabeculated bladder, and 1½ inches above the right ureteric orifice the puckered opening of a diverticulum. The bladder was injected with sodium bromide solution and a cystogram taken, which revealed a large sac with a capacity about half that of the bladder. On opening the bladder the tumour was found to be inoperable, and cystostomy was performed. Death took place seven months after the operation. There was no autopsy. After the account

[1] Urological and Cutaneous Review, March, 1924.

of this case had been written an article appeared in the January number of *Surgery, Gynecology, and Obstetrics* by Judd and Scholl, who, in a series of 133 cases of diverticulum of the bladder, reported four with carcinoma, all of which were diagnosed cystoscopically by the appearance of part of the growth at the orifice of the sac. In three the tumour and sac were resected completely, while in the fourth radium was employed. Three died shortly after the operation, and one lived for two years. In six other cases carcinoma of the bladder was associated with a diverticulum.

BROADCASTING HEART SOUNDS.

AT a meeting of the Bristol Medico-Chirurgical Society held on April 9th a paper was read by Dr. Carey F. Coombs and Dr. C. K. Herapath on auricular failure. This was followed by a discussion, and during the evening an experiment in "broadcasting" heart sounds was made, which if not new to this country, was at least sufficiently unusual to be of more than local interest. The experiment was carried out by Mr. Arthur Mitchell, of Clifton, who was introduced to the meeting by Prof. F. H. Edgeworth. The apparatus used was a sensitive microphone applied over the

heart of a person in an adjoining room, and connected to a suitable transformer. This was then amplified by four wireless valves and reproduced through a loud speaker to the audience at the meeting. The first case was that of a normal heart, and the second, one with total arrhythmia. In both instances sounds corresponding to heart beats could be heard clearly all over the room, the irregularity in the second case being strikingly demonstrated. The improvement and perfection of such a method as this offers infinite possibilities for teaching in the future. The accompanying illustration, for which we are indebted to the Sport and General Press Agency, was taken at the clinic of Dr. Leo Jacobsohn, of Charlottenburg, who has also succeeded in amplifying the beats of the human heart so that they are audible in a large hall.

THE NATURE OF "BLOOD" CYSTS.

THE so-called blood cyst of the ovary has long been recognised by gynæcologists the world over; it is usually regarded as being produced by failure to rupture on the part of a Graafian follicle. Probably many such cysts do originate in this way, but recent work by Dr. John A. Sampson,[1] of Albany, N.Y., suggests that many have another and much more interesting mode of development. These cysts attain to their greatest size on the ovary, but Dr. Sampson, in the course of a long series of major gynæcological operations, observed smaller but otherwise similar cysts occurring in various sites upon the pelvic peritoneum. Histological examination showed that both the ovarian blood cysts and those occurring elsewhere possessed an epithelial lining closely resembling the uterine endometrium. Observation of the uterus during operations convinced Dr. Sampson that it was no unusual thing for menstrual blood to regurgitate through the Fallopian tubes into the peritoneal cavity, and actual experiment showed that very little manipulation of the uterus sufficed to bring about the same result after operations upon the endometrium. These observations led Dr. Sampson to believe that blood cysts both of the ovary and elsewhere within the pelvis may arise by implantation of fragments of endometrium escaping through the Fallopian tubes. He was able, moreover, to obtain evidence for belief that what holds for normal holds also for malignant uterine epithelium, and on the strength of this he advises certain obvious modifications, such as a preliminary ligation of the Fallopian tubes, in the performance of hysterectomy for malignant conditions of the uterus. Apart, however, from immediate practical considerations, Dr. Sampson's observations possess a wide general interest. He believes on good evidence that the endometrial implants grow more readily upon the ovary than elsewhere, and that the implants on the pelvic peritoneum are usually secondary to primary ovarian grafts. In the light of the work of Drew[2] on growth-producing substances, recently reported in THE LANCET, this indication of the presence of such a substance in the ovary is of particular interest; the invasiveness of some of these implants, even while clinically benign, gives food for thought. Even more intriguing is the suggestion—it is no more than a suggestion, for the evidence on this point is by no means conclusive—that implants originally benign may undergo malignant change in the presence of such a change in the parent uterine endometrium. Experimental evidence strongly in support of Dr. Sampson's views on the ætiology of the blood cysts has been produced by Dr. Victor C. Jacobson,[3] of the Albany Medical College, working upon rabbits.

THE OPHTHALMIC HOSPITALS OF EGYPT.

THE publication of the usual annual report on the Ophthalmic Hospitals of Egypt for 1922 having been delayed, an abstract of it has been printed privately by Mr. A. F. MacCallan, C.B.E., F.R.C.S., who recently vacated the post of Director of the Ophthalmic Section of the Department of Public Health. Mr. MacCallan held this post for 20 years, during which the organisation of a system of special hospitals proceeded hand in hand with that of a definite school of ophthalmology based on the administrative scheme of the Royal London Ophthalmic Hospital. The 23 existing ophthalmic hospital units situated in the capital towns of the 14 provinces are staffed by Egyptian surgeons, who, after obtaining their diplomas at the Government Medical School, go through a course of instruction at the Giza Hospital and Ophthalmic Laboratory in the suburbs of Cairo, lasting for a minimum period of two years. For some six years all Mr. MacCallan's assistants have been Egyptians, but it must not be forgotten that in the early years the help of other British surgeons was utilised in the initiation of hospital and laboratory courses of instruction. These were Dr. L. S. Miller, of Hobart, Tasmania, Dr. G. H. McLaren, of Montreal, Canada, Dr. E. V. Oulton, of Brighton, Dr. R. G. Waddy, now Professor of Ophthalmology at Sydney, and Dr. J. B. Horgan, of Cork.

The origin of the ophthalmic campaign in Egypt was the liberality of Sir Ernest Cassel in placing under the trusteeship of Lord Cromer, and thereafter under that of the High Commissioner for the time being, a sum of £40,000, the interest of which was to be used

[1] Benign and Malignant Endometrial Implants in the Peritoneal Cavity and their Relation to Certain Ovarian Tumours, by John A. Sampson, M.D., F.A.C.S., Surg., Gyn., and Obst., xxxviii., 3, 287.

[2] On the Cultivation of Tissues and Tumours in Vitro, by A. H. Drew, THE LANCET, 1923, i., 785, 833.

[3] Autotransplantation of Endometrial Tissue in Rabbit, by V. C. Jacobson, Arch. Surg., 1922, v., 281.

for the ophthalmic needs of Egypt. The initial step in carrying out the wishes of the benefactor was taken by obtaining the services of Mr. MacCallan, then working as chief clinical assistant at the Royal London Ophthalmic Hospital, to organise a travelling ophthalmic hospital at which ophthalmic instruction could be given. From this beginning in 1903 has arisen an ophthalmic system consisting of five completely equipped travelling hospitals under canvas, 16 specially designed and built permanent hospitals, and two ophthalmic departments attached to existing general hospitals. Readers of THE LANCET will recall many references to the work of the travelling units. The general administration, the clerical routine, and the clinical work of these hospitals are carried out according to a code of regulations which has the confidence of the staff. As each hospital has two surgeons, a clerk, and a steward, as well as highly skilled hospital attendants, there is an ample staff to cope with the patients; as many as 500 a day attend the out-patient department at certain periods of the year. Each hospital has a number of beds varying from 16 to 30. The higher administration consists of a director, a pathologist, and three inspecting surgeons, former pupils of Mr. MacCallan and appointed by him. There is also a carefully selected and highly efficient clerical staff at headquarters in Cairo, so that there is every reason to believe that the work will continue, provided that the administration remains strong, as well as sympathetic. A large part of the success obtained may be attributed to the fact that the clinical aspect has always been kept in the foreground, and as much of the administration as possible has been delegated to clerical subordinates. That this has not been prejudicial to the work is witnessed by the confidence in it of successive High Commissioners, Ministers, and Under Secretaries, and by its popularity among all classes of Egyptians, even among those who are most opposed to the continuance of any British influence in the country. It is thoroughly recognised by these that they owe an admirable system of cure and prevention of conditions which weigh heavily on their country to a British benefactor primarily, and secondarily to a British surgical administrator. Over £100,000 have been raised for capital expenditure by private donations and by subsidies from county and municipal councils, and the Government grant for maintenance expenses amounts approximately to £50,000 a year. Provision has been made for carrying on ophthalmic clinics at all the provincial primary schools, as well as at several schools in Cairo and Alexandria, where particular attention is paid to the correction of errors of refraction. During the last year Mr. MacCallan was appointed Deputy Director-General in charge of all Medical Services, but he preferred to remain an ophthalmic surgeon, and has returned to practice in London.

FROM various sources information has been received of the recent increase of plague in the Punjab, and the figures in the last Monthly Epidemiological Report, issued by the Health Section of the League of Nations, confirms the bad news. In the figures given by the Director of Public Health for the Punjab, the total of cases was 328 for the week ending March 26th. There were 102 deaths reported from plague in Lahore. Plague cases have been reported throughout the beginning of the year from South-Eastern Russia and the Kirghiz and the Kirghiz Republic, including the Ural and Bukeiev Governments. The disease has been reported from Siberia, and cases have been identified in two European ports—namely the Piræus and Lisbon; but figures from other places, however much they may keep before us the lesson of watchfulness, become negligible when compared with the Indian statistics. In the first completed month of this year there were over 16,000 cases of plague in British India, and 75 per cent. of the cases were fatal. The figures show an ominous rise on those of the corresponding period of last year.

Modern Technique in Treatment.

A Series of Special Articles, contributed by invitation, on the Treatment of Medical and Surgical Conditions.

LXVIII.—THE TREATMENT OF EARACHE.

OF all the causes of earache the one of outstanding importance both owing to its frequency and to the seriousness of its possible sequelæ is acute otitis media. Every case of earache should be approached as though this were the cause until it is proved not to be. Briefly, the treatment of acute otitis media consists in incision of the drum-head if necessary at the proper moment; the decision as to whether the condition is ripe for this small operation can only be made by examining the ear with the aid of the forehead mirror or the electric otoscope. Those medical men who are unaccustomed to the use of these instruments should refer any case of earache in his practice to some fellow practitioner who has had practice in the examining of drum-heads, or should call in a specialist. It is necessary so to educate opinion in the profession that the application of warm oil or glycerine for earache or the insertion of drops of hydrogen peroxide without examining the drum-head should be deprecated as strongly as, for example, the administration of castor oil to a child with the belly-ache without examining the iliac fossa to exclude appendicitis. A detailed description of the physical signs of the inflamed drum-head and of the treatment of this condition will be found elsewhere,[1] but stress may be laid upon certain important points.

1. *Warmth* best relieves the pain, but it should not be employed in the form of hot fomentations. These cause the skin to become sodden; the skin in the external auditory meatus swells and the epithelium peals off and may block the meatus. In this way the subsequent examination of the drum-head becomes impossible, so that the changes occurring therein cannot be observed. Thus a drum-head may be incised unnecessarily or a case may be allowed to go too far without paracentesis, so that the risk of mastoiditis is greatly increased. The best way to apply warmth is to make the patient lie with the bad ear upon a half-filled rubber hot-water bottle which is covered with flannel. In addition, it is well to cover the head with a flannel cap so that the ear is still protected if the patient roll over in the night.

2. *Removal of Wax.*—To remove wax from the ear of a small child or even of an adult who has pain in that ear is the most difficult operation in otology. If it cannot be done with ease and at once, it is best to make no further attempt but to give the patient an anæsthetic. The ear can then be cleaned up and the drum-head examined under anæsthesia. If this examination gives evidence of an acute otitis media the incision can be made at once. There is but little fear of giving an anæsthetic unnecessarily, for the association of pain in the ear with such tenderness that wax cannot be removed nearly always indicates acute otitis media.

3. *Anæsthetics.*—A few otologists acquire so high a skill that gas only is needed for them to incise the drum-head, but for the practitioner it is better to give an anæsthetic which gives more prolonged unconsciousness. This enables him to clean out the ear, to pick up the landmarks on the drum-head, and carefully to incise the most prominent part. I have not found any local anæsthetic which is efficient for the incision of an inflamed drum-head, though some say that it can be done after the application of Bonain's solution (equal parts of cocaine, menthol, and pure carbolic).

4. *The Adult Patient.*—The treatment is the same in the adult patient, though the pain may not be so severe, and the subacute type, which will resolve

[1] The Treatment of Acute Otitis Media in Children, British Journal of Children's Diseases, April–June, 1923.

without incision or rupture of the drum-head, may be more common than in the child; but the possible sequelæ either in the form of acute mastoiditis with its complications or in the form of chronic suppuration are just as likely to occur and to lead to as tragic a termination if the condition is neglected.

Inflammation of the Skin of the Meatus.

The examination of the ears, which the practitioner has made in order to exclude otitis media, will also have drawn his attention to the other common aural lesion of earache. This is some inflammation of the skin of the meatus especially in the form of a boil. The treatment depends first upon the decision as to whether the boil should be opened or not. The pain in this condition is so intense that any visible swelling may be incised, even if there is no pus therein, with considerable advantage owing to the relief of tension in the inflamed part. If the boil is pointing it is well to incise without waiting for it to burst; even if it has already burst it should still be incised unless the discharge is very free. In both these conditions the relief of tension will so ease the pain that the patient should not be allowed to go without this benefit. Here, again, I use a general anæsthetic, though it is said to be possible to do the small operation under Bonain's solution. After the boil is opened it should be emptied of pus and the interior touched with pure carbolic acid.

The Toilet of the Outer Ear.—Further treatment of such a case, and the whole treatment of a case which does not need incision, depends upon the toilet of the skin of the outer ear. This cannot be left to the patient, but must be carried out by the practitioner in a good light with a wool-carrier. The best cleansing agent is alcohol in the form of methylated or of rectified spirit or of scent. The whole of the skin of the meatus and of the neighbouring part of the pinna should be gently rubbed in such a way as to bring from the ear the superficial epithelium and any wax or secretion that may be obstructing the orifices of the various glands of the skin of the meatus. The whole area may be painted with tincture of iodine after it is thoroughly cleaned. It is best to repeat this treatment daily for a few days, but if this is impossible the patient may himself apply some ung. hyd. ox. flav. to the skin of the ear. Sometimes it is easier for him to apply this in the form of drops, which may be made by suspending two or three grains of the yellow oxide of mercury in an ounce of equal parts of glycerine and spirit. Here, again, fomentations should be avoided; they tend to make the meatus full of a nasty decomposing mess, and to spread the boils from the ear to the skin of the neighbouring parts. The chronic form of furunculosis is sometimes most intractable and tends to recur whenever the patient is out of sorts.

Pain Referred from the Mouth.

If the ear presents no obvious cause of the symptom the mouth should be examined. Most often a carious molar tooth is at fault, usually the back one, and more frequently the lower than the upper. Any form of acute inflammation in the region of the fauces will cause earache; it is not uncommon in cases of tonsillitis, parenchymatous or follicular, in other forms of acute pharyngitis, and after operations on the tonsils. In all these lesions the inflammation may spread up the Eustachian tubes to the middle ear and an acute otitis media may be the cause of the pain. Therefore, it still behoves the doctor to examine the drum-heads as soon as complaint is made of earache; he must not jump to the conclusion that the pain is referred. One form of subacute pharyngitis is that which attacks the naso-pharynx in adults and affects particularly the band of lymphoid tissue which runs down the lateral wall of the pharynx. The only thing to be seen through the mouth is an infection of the mucous membrane behind the posterior pillar of the fauces on either side. In such a case there may be quite intense earache occurring at the height of the excursion of the structures in the act of swallowing.

Pain or Tenderness Near the Ear.

Certain lesions cause a pain which the patient describes as earache but which proves on critical examination to be pain or tenderness near the ear. The commonest lesion here is an enlarged lymph gland, either over the mastoid, beneath the lobule of the ear, or immediately in front. Any of these may be enlarged from a small cutaneous lesion in the meatus insufficient in itself to cause pain. The mastoid gland again may become enlarged from the bite of the head louse. It needs sometimes the very closest examination to distinguish between a nit and a particle of dandruff sticking to a hair. Another lesion which may cause this gland to be enlarged in a woman is a scratch in the scalp from a hairpin or a hatpin. Pain near the ear may also be caused by a lesion of the temporo-mandibular joint or of the parotid.

Earache Without Apparent Lesion.

When all these regions have been examined there remain a few cases of earache in which no lesion is immediately apparent. Sometimes a minute piece of hard wax, perhaps no larger than a pin's head, sticking on the drum-head may cause the symptom. Cases have been known in which persistent earache has been relieved by paracentesis, although no change could be seen in the drum-head, and no tension was apparent when the incision was made. But before this operation is performed the mouth must again be examined. An unerupted and impacted lower wisdom tooth pressing against the molar in front of it may cause earache; this will be discovered or excluded by means of the X ray. In the adolescent an erupting lower molar may have the same effect. Lastly, it is possible that the mere distension of a crypt or crypts or the supra-tonsillar fossa of the tonsil by one or more of those ovoid soft concretions that can so often be expelled therefrom may be a cause of earache. If such a thing were suspected the treatment would be to empty the cavity if necessary after slitting up its orifice.

T. B. LAYTON, M.B., B.S. Lond., F.R.C.S. Eng.,
Surgeon in Charge, Throat and Ear Department, Guy's Hospital and St. George's Dispensary.

Corrigendum.—In DR. J. B. MENNELL'S article on the Treatment of Sprains, which appeared last week under this heading, the sentence p. 816, col. 2, line 51, should read: "When swelling has disappeared *from the front of the elbow* restoration of movement," &c.

OPHTHALMIC HOSPITAL OF THE ORDER OF ST. JOHN, JERUSALEM.—The report of this hospital for 1923 records the great increase in the amount of work accomplished since the war—14,777 new cases as compared with an annual pre-war average of 9849—an increase made possible by extension of the buildings and an increase in the subordinate personnel. The number of operations, most of them (62 per cent.) for trichiasis, has increased from 1926 to 4169, while the number of surgeons employed is only two, so that in the opinion of the warden the limit has been reached in this direction until a third surgeon is appointed. The need is pressing. During the past year approximately one-half only of the cases requiring operation could be admitted or operated on as out-patients. The remainder had to return to their villages unrelieved and disappointed.

ROYAL WEST SUSSEX HOSPITAL.—The annual report of this institution for the year which ended on Dec. 31st, 1923, is a document more satisfactory than others of recent years, for the statement of accounts shows a small balance in hand, while the expenditure shows an appreciable decrease and the income has been fairly maintained. The income for 1923 was £9816, and the expenditure £9752. The report for 1922 showed a cash deficit of £564. The in-patients treated during the year numbered 978 and the out-patients, who made 6713 attendances, numbered 1761. In addition, 1020 attendances were made in the X ray department, and 2509 in the electrical massage department. It is of interest to note that the board of the hospital keeps in close touch with the work of other hospitals by the attendance of its representatives at the meetings of the Regional Committee for Hants, Dorset, and West Sussex at different hospitals.

Special Articles.

BRITISH EMPIRE EXHIBITION, WEMBLEY.

TROPICAL HEALTH SECTION.

IT may not be generally known that in the Hygiene Section of the British Empire Exhibition as many as 27 different diseases are the subject of special educational propaganda. The section is housed in the Government pavilion and occupies one of the best positions in the exhibition. A small book, descriptive of this section, has been published with a view to bringing home to the public the great advances made in this field and to emphasise the imperial significance of tropical diseases.

The Tropical Health Committee.—With Sir Humphry Rolleston as chairman and Sir W. B. Leishman as deputy chairman, this Committee is composed as follows: Major E. E. Austen, Dr. Andrew Balfour, Sir P. W. Bassett-Smith, Dr. J. E. Butler, Sir R. Havelock Charles, Dr. J. B. Christopherson, Lieut.-Col. W. W. Clemesha, Dr. S. H. Daukes, Mr. G. C. Dudgeon, Dr. N. Bishop Harman, Mr. Guy A. K. Marshall, D.Sc., Dr. H. B. G. Newham, Prof. R. Newstead, F.R.S., Capt. J. Ramsbottom, Surg.-Commander T. B. Shaw, Dr. H. S. Stannus, and Prof. J. W. W. Stephens. Illustrations and specimens have been provided by individual contributors and by the Natural History Section of the British Museum, by the Liverpool School of Tropical Medicine, the Royal Army Medical College, the Royal Naval College, the Wellcome Bureau of Scientific Research, and the Imperial Bureau of Emtomology and Mycology.

Guiding Principles of the Exhibition.

The Tropical Health Section is intended to give a bird's-eye view of the various diseases dealt with—how they are caused and prevented. It is essentially an exhibition for the layman, but no attempt has been made to soften the picture which is presented in all its naked truth for the benefit of the administrative layman who has to deal with the problems arising from these diseases. The Tropical Health Section is in four parts. There is a jungle scene devised to emphasise the material benefits to be derived from well-regulated preventive measures, and the differences between 50 years ago and to-day are contrasted in two well-planned tableaux. The second part, or Disease Section, deals with 27 diseases, and one portion is devoted exclusively to that large group, the diseases in which are spread by biting insects. Each disease is briefly described with the help of pictures, photographs, models, and specimens, and there is a short introductory account of its history and the means at present available for fighting it. There are also specimens and models of the insects which play a part in disseminating these diseases. This portion includes such diseases as malaria and yellow fever. Another group of diseases are those essentially due to intestinal infections, such as typhoid fever. Food-deficiency diseases are represented by scurvy and beri-beri, and considerable space is devoted to skin diseases, yaws, and leprosy. In the third section, devoted to hygiene, a uniform illuminated device is employed to provide statistical information at a glance. The fourth section deals with plant diseases.

Tropical Diseases.

Sleeping Sickness, Malaria, Blackwater and Yellow Fever.—Special attention is called to photographs of natives suffering from sleeping sickness, the characteristic somnolence, emaciation, and puffiness of the face being well shown. Wax models and specimens of the tsetse-fly and its developmental stages, and photographs depicting its haunts and breeding-grounds are shown. It is pointed out that a well-organised campaign against the tsetse-fly may practically stamp out the disease, as has been proved in the Island of Principe. The malaria exhibit is remarkably complete; a central exhibit shows by means of models and actual specimens the stages and processes of breeding, and there are models of the parasite in the human and mosquito stages. There are several illuminated devices demonstrating the value of preventive measures. The relation of blackwater fever to malaria is briefly discussed, and a short account is given of the genesis and course of yellow fever. A model is shown of the "tiger mosquito" responsible for this disease, and an interesting account is given of how small fish may be employed to eat the larvæ in the breeding places of this mosquito. A pictorial account is given of the recent successful campaign in Guayaquil against this mosquito.

Dengue Fever, Filariasis, Guinea-worm Disease, and Relapsing Fever.—The relation of dengue fever to mosquitoes is pointed out, and in the exhibit devoted to filariasis there is a specimen of elephantiasis of the leg showing the gross deformity resulting from this disease. There is also a wax model of "Calabar swelling" caused by the West African "loa loa" worm. The life-history of the guinea-worm is also pictorially described, and there is a model of the ulcer produced by the female worm. There are also specimens of the water flea in which the embryos of this worm develop. The various spirochætes responsible for relapsing fever, syphilis, and other diseases are demonstrated, and their mode of propagation explained.

Plague, Sandfly Fever, Rocky Mountain Fever, Oriental Sore, and Trachoma.—There are photographs and paintings of plague patients and pathological specimens illustrating three varieties of this disease. There is much in this exhibit of historical interest, and the leaden crosses, which were buried with plague corpses, are shown. The costume worn by physicians attending plague patients, and certain instruments for opening the buboes, are included among the exhibits, which also show ancient pictures of incidents connected with plague. There are original paintings showing the development of the sand-fly, and this particular exhibit gives a good idea of the detailed work required to investigate a disease caused by an insect hardly large enough to be visible to the naked eye. The exhibits of Rocky Mountain fever and "Oriental sore" are an eloquent tribute to the efficiency of research, and it is pointed out how recent advances in treatment as well as prevention have made the outlook for these diseases much more hopeful. There are excellent paintings emphasising the seriousness of trachoma, and justifying the elaborate efforts made to keep this disease out of the British Isles by the Alien Acts.

Dysentery, Typhoid and Paratyphoid Fevers, Cholera, Hookworm Disease, and Bilharziasis.—There are some excellent pathological specimens showing liver abscess following amœbic dysentery, and special attention is directed to the decline in the typhoid and paratyphoid fevers by an illuminated statistical device contrasting the incidence of these diseases in the South African campaign and the late war. An exhibit of the method of preparing vaccines shows the meticulous care taken to guarantee purity and accuracy of dosage. In connexion with the typhoid group of fevers there are sundry exhibits drawing attention to the possible dangers of eating shell-fish "fattened" in polluted water, and of eating uncooked vegetables, such as watercress, contaminated by sewage. With reference to the mortality from cholera, it is interesting to note the illuminated statistical device showing the efficiency of intravenous injections of saline solution as advocated by Sir Leonard Rogers. There are also paintings illustrating the causation of cholera. The methods by which the hookworm attaches itself to the intestines are illustrated, and there are large wax models of the heads of the two species of hookworm which give most trouble. The exhibit of bilharziasis stresses the value of preventive measures; this disease has recently been located in Portugal.

Scurvy, Beri-beri, Pellagra, and Tropical Skin Diseases, including Leprosy.—The relation of scurvy to diet is driven home by an exhibition of samples or models of various anti-scorbutic foodstuffs. There is a specimen of a dilated heart from a case of severe beri-beri to teach the lesson that acute heart failure is one of the chief dangers of this disease. A sample of the diet consumed by a ship's crew suffering from beri-beri is shown. The existence of pellagra in our midst is drawn attention to by paintings of patients observed in English asylums. Various rare skin diseases in the tropics are demonstrated by photographs, and the problem of leprosy is dealt with by paintings, photographs, and illuminated statistics showing the effects of preventive measures.

Sunstroke.—There are various exhibits showing the means best suited to the protection of the head and spine by helmets, spine pads, and other contrivances, and there is a small model of a double-roofed tent. There is also a rough model of the improvised bath-house used in emergencies with success for the treatment of heatstroke in Mesopotamia.

Model of a Tea Garden.

The central exhibit contains a model of a manager's bungalow built in two storeys, the upper being carefully screened with mosquito gauze, and containing five rooms in the form of a cross which gives the maximum amount of outside wall, and catches every breath of wind. A house of this kind should be healthy in almost any country, however malarious. The latrines are connected with the main block by a masonry path devised to prevent hookworm disease. The banks of the stream which runs through the garden are riveted with brick to prevent mosquito breeding, and there is an arrangement for oil to drip into the water to render it less attractive to the mosquito.

Pilgrimages, Marine Quarantine, Vaccination, Oriental Sanitary Appliances, and Chlorination of Water.

Pictures are shown illustrating the sanitary problems associated with pilgrimages and festivals, and useful hints are given as to the sanitary arrangements necessary for such a situation. In the Marine Quarantine exhibit there are shown models of port health officers' boats especially prepared for isolating a patient with yellow fever from the local mosquitoes. The method of preparing vaccine lymph from calves is demonstrated, and it is shown how much more troublesome this process is in hot than in cold countries. Dr. Allan Green's apparatus for purifying calf lymph with chloroform is also demonstrated. The sanitary fittings usually found in European houses not being always to the likings of the conservative Oriental, English manufacturers have designed special fittings to closets, urinals, &c., for the needs of India, China, and the Far East; these fittings are said to be much superior from a sanitary point of view to anything which can be manufactured in the countries for which they are intended. Apparatus for the chlorination of water is also displayed.

The keynote of the Tropical Health Section is hopeful realism; its realism must be almost painful to some laymen, but there can be no doubt as to the hopefulness of the outlook, of the prospect that in the near future many of the Empire's territories will cease to deserve the title "The White Man's Grave."

NEW CORONER FOR SOUTH LONDON.—To fill the vacancy caused by the death of Mr. G. P. Wyatt, the London County Council has appointed Surgeon-Commander A. D. Cowburn, M.R.C.S., D.P.H., L.R.C.P., Barrister-at Law, to be coroner for the Southern District of the County of London. The inclusive salary attaching to the office is £981 18*s.* per annum, but it is probable that the Duchy of Lancaster will appoint Commander Cowburn to the vacant franchise district of Clapham at a salary of £59 8*s.* a year, making the combined salary £1041 6*s.* a year. A condition of the appointment is that the occupant shall "devote his whole time to the duties of his office, not practise any profession or hold any other public appointment, and resign on attaining the age of 70 years."

THE TUBERCULOSIS SOCIETY:
MEETING AT CAMBRIDGE.

(*Concluded from p. 818.*)[1]

FOLLOWING the papers reported in our last issue which were read at the Cambridge meeting of this Society, Dr. A. Stanley Griffith gave a communication on

Lupus.

Dr. Griffith's paper dealt with atypical tubercle bacilli in natural tuberculosis with special reference to those occurring in lupus. Since Cobbett first isolated an atypical strain of tubercle bacillus from a case of lupus, the bacteriology of lupus has been investigated by Dr. Griffith. Dr. Griffith's work was carried out in the Field Laboratories, Milton, and he paid a tribute to Sir G. Sims Woodhead's encouraging support. In the first series of 20 cases of lupus there were only three strains conforming to definite types, the remainder did not conform exactly either to the human or to the bovine type as far as their virulence to experimental animals was concerned. Culturally, the strains could be classified as bovine or human. The main objects of subsequent investigations were (1) to search for atypical strains in other varieties of human and animal tuberculosis, (2) to seek direct evidence of modification of strains in skin lesions, and (3) to ascertain if, by examining a large number of cases of lupus, the finding of the high proportion of atypical strains in the first series could be confirmed. The observations of Dr. A. Eastwood and Dr. F. Griffith between 1911 and 1916 were incorporated with those of Dr. A. S. Griffith. In the human subject atypical strains were found at first only in lupus, but in the later investigations atypical strains were obtained also from other varieties of human tuberculosis. Strains with modified virulence resembling those from lupus were, however, very uncommon and occurred only in about 0·6 per cent. of the cases. The avian tubercle bacillus was not found in the human being. In animals atypical tubercle bacilli were not of frequent occurrence. Of 132 cases of tuberculosis in the pig, 94 were due to the bovine type, 31 to the avian, four to the human type, and in three cases the infection was due to more than one type of tubercle bacillus; only three of the porcine strains were atypical. In the six cases in which tuberculosis in the horse was investigated, the type was invariably bovine, although in three of these cases the characters of the bacilli were not in every respect strictly those of the bovine type.

Up to date 140 cases of lupus have been investigated, the tubercle bacilli being classified according to their behaviour on culture and their virulence to rabbits, guinea-pigs, and certain other experimental animals. Two main groups, each with a subgroup, were distinguished. Of the 71 cases showing typical bovine characteristics on culture, 22 were characteristically virulent to all the species of experimental animals tested. Of the 66 cases showing typical human characteristics on culture, 19 showed standard virulence to experimental animals. There were also three cases in which the strains were atypical in cultural characteristics. It was noticed that there were no clinical features distinguishing cases of lupus according as the infection was of the bovine or human type. With regard to the question, "Do the atypical lupus tubercle bacilli acquire their special characteristics during residence in the cutaneous tissues?" Dr. Griffith stated that all the evidence goes to show that lupus is produced originally by tubercle bacilli of normal virulence, and that their virulence becomes modified in the course of the disease. The evidence in support of this view is direct and indirect. With regard to the former, re-examinations were made of 24 cases of lupus, the characters of the strains in one and the

[1] In the report last week of Dr. Matson's remarks on American tuberculosis work the death-rate in 1910 of 202 and in 1922 of 94·2 should, of course, have been given as *per 100,000*.

same case being compared on different occasions. In 6 of these 24 cases the first strains were fully virulent bovine tubercle bacilli, and in each instance the second, or a later, strain was definitely less virulent than the first, though the tubercle bacilli were unaltered in cultural characteristics. As to the suggestion that daylight may attenuate the virulence of tubercle bacilli in the cutaneous lesions of lupus, Dr. Griffith had been unable to find uniform differences in the virulence of tubercle bacilli obtained from lupus areas exposed to, or concealed from, daylight. In one case a fully virulent bovine strain was obtained from lupus of the face of 33 years' duration.

Lupus being common in the exposed parts of the skin, it was thought that the subnormal temperature of the skin of these parts might affect virulence, but passage experiments through toads did not support this hypothesis, though the duration of residence of tubercle bacilli in toad tissues was as long as seven years. No decrease in virulence or change of cultural properties being observed, support was not given to the view that mammalian tubercle bacilli could be easily modified in the tissues of cold-blooded animals. Dr. Griffith had noticed that although tubercle bacilli had lost their virulence to the experimental animal, there was no loss, but rather an increase, of their virulence to the individual suffering from lupus. Hence the conclusion that the changes observed in the pathogenic properties of tubercle bacilli during residence in lupus lesions are not degenerative, but the result of adaptation of the bacilli to conditions in the skin, different from those which obtain in other organs, of the nature of which we have no definite knowledge.

Other points in the paper were that passage of atypical tubercle bacilli through the guinea-pig did not influence their virulence, and that from the same patient different strains might be obtained, the virulence of which was not identical. He had also noticed that cultural qualities were more stable in the human body than the degree of virulence to the experimental animal. In addition to his communication on lupus, Dr. Griffith gave much information about the character of the infecting organism in the cervical gland and other varieties of tuberculosis of man, and he showed how the incidence of bovine infection declined as the age of the children examined increased. In the discussion which followed, Dr. S. Roodhouse Gloyne dwelt on the apparent waywardness and variability of guinea-pigs which are not obliging enough to behave with the frigid uniformity of the standardised test-tube. He also observed that giant cells seemed to be more common in tubercles provoked by the human type than in those due to infection with the bovine type.

Mr. G. R. Girdlestone read a paper on

The Present-day Treatment of Bone and Joint Tuberculosis.

His paper, in which he outlined general principles and considerations, but gave no statistical account of his own work and of the results achieved, laid special emphasis on the importance of allowing plenty of time for the treatment of surgical tuberculosis. He confessed that the believer in the short cut to health was anathema to him, and though he admitted that heliotherapy might be beneficial, he did not confess to that frantic enthusiasm exhibited by the devotees of this cult. Certainly, the child who pigmented well under the sun was likely to do better than the child whose skin did not pigment easily, but it was a far cry from this observation to the deduction that pigmentation itself was the main beneficial factor. In this connexion he pointed out that between the old days of white children and these days of brown children, there was a decade or so when rosy-cheeked children thrived in open air wards. The rosy-cheeked child seemed no longer to be fashionable in institutions for surgical tuberculosis, although of the vigorous health of this breed Mr. Girdlestone was convinced. As long as the disease was acute, he was sure that immobilisation was essential. With regard to the value of Albee's and similar operations, he was not in favour of them for the child, for whom time is not such a vital factor as it is for the adult. Again, a child's bone-graft is apt to be too weak and elastic to immobilise the spine effectively. He was, however, in favour of bone-grafting operations in certain adult cases of Pott's disease. He had found ultra-violet light most beneficial when tuberculous lesions were superficial. Bier's treatment by passive congestion did not impress him, and he observed that Rollier prefers to keep the diseased limb tilted up.

Mr. A. Cook, of Addenbrooke's Hospital, gave an account of a visit to the Finsen Institute in Copenhagen, where he had studied the treatment of surgical tuberculosis with universal carbon arc light, the clothing of the patients being limited to spectacles. He mentioned a case of Pott's disease, illustrating the difficulties a young surgeon may encounter when an eminent consultant reverses the correct diagnosis. The patient had been treated for Pott's disease by immobilisation for two years, at the end of which the eminent consultant appeared on the scene and diagnosed "hysterical spine," for which diagnosis the patient had to pay some time later with a tuberculous knee, which the most eminent of consultants could hardly have regarded as hysterical.

Visit to Papworth Colony.

The meeting of the Tuberculosis Society ended on April 12th with a tour of inspection of the Papworth Colony, where Dr. P. C. Varrier-Jones answered many scores of questions fired at him by visitors, most of whom possessed expert knowledge of the administration of institutions for the tuberculous. The success with which he came through this ordeal was certainly a tribute to himself and, perhaps, to the soundness of the scheme to which he has devoted unceasing energy for many years.

MEDICAL WOMEN'S FEDERATION.

MEETING OF COUNCIL.

A MEETING of the Council of the Federation was held at the London School of Medicine for Women, 8, Hunter-street, London, on April 12th, Lady Barrett, President of the Federation, being in the chair. Among the various matters considered the following were of special interest.

The plan of action of the Medical Women's Federation with regard to equal pay for men and women in the profession for all posts was brought up for reconsideration. It was pointed out that an increasing number of public authorities were attempting to obtain medical women at a lower salary than medical men, and were offering them £500 for posts where the British Medical Association minimum salary would be £600. Many instances were reported where women candidates had refused to take such a post, owing to the representations of the Medical Women's Federation, the British Medical Association, and the Society of Medical Officers of Health, and in one case, at any rate, the salary had in consequence been raised to £600 and the woman appointed. It was considered, however, that under the present circumstances it will be a work of great difficulty to prevent women accepting posts below the British Medical Association minimum, and success can only be looked for if the support of the men in the profession is given. It was felt strongly that the subject concerned the profession as a whole, a point of view which the British Medical Association has always maintained. To accept the principle of lower pay for women than for men, for equal work, would mean not only the introduction of competition between the sexes on very undesirable lines, but would almost certainly lead in the long run to the lowering of salaries for men also. In conclusion, a resolution was proposed and passed unanimously that:—

"The Medical Women's Federation reiterates its firm conviction of the absolute necessity for maintaining the

principle of equal pay for equal work as between men and women."

Reports were received and discussed from the various subcommittees of the Federation and from its representatives on the British Medical Association committees and other bodies. The report of the Venereal Diseases Subcommittee brought forward evidence of extremely unsatisfactory conditions permitted in some of our Chinese colonies, and the following resolution, to be sent in to the Secretary of State for the Colonies, was moved and carried:—

"The Medical Women's Federation calls upon the Government to bring the Crown Colonies into line with the British law in regard to the penalties for brothels and disorderly houses, and, particularly in the case of Hong-Kong and the Straits Settlements, to break up and abolish all existing vice areas or streets where brothel-keeping is at present allowed."

Miss Mabel Ramsay, the Federation's representative on the British Medical Association Insurance Acts Committee, reported the very satisfactory work that had been accomplished by that Committee, and proposed that a vote of thanks should be sent by the Federation to the chairman, Dr. H. B. Brackenbury, and the officers of the British Medical Association for the care and skill taken in presenting the case for the panel doctors to the recently held Council of Inquiry. This was passed unanimously. Five members were elected to represent the Federation on the Council of the Medical Women's International Association—Lady Barrett, Dr. Christine Murrell, Dr. Jane Walker, Dr. Dickinson Berry, and Miss Louisa Martindale. The meeting of the International Association will take place on July 15th, 16th, and 17th at the house of the Royal Society of Medicine, 1, Wimpole-street, London, W.

The Council received with deep regret notice of the death of two of its members, Dr. Ann E. Clark and Miss Ethelberta Claremont.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

The Asylum Strike in Donegal.

THE difficulties in the Tirconaill Mental Hospital, Letterkenny, produced by the strike of attendants, appear not to have been completely surmounted. Reports a few days ago stated that the situation was normal, the committee having been able to secure the services of a number of demobilised soldiers to act as attendants on the male side. But there have since been accounts of retaliation on the old staff by the new female attendants. One can hardly suppose, in any case, that a staff of trained attendants can be replaced in a moment by a band of untrained persons without grave loss of efficiency. It is to be hoped that the Government will order an inquiry into the events which led up to the strike. On the face of it the committee seems to have acted in an imprudent, or even provocative, manner. Since 1920 there has been in force an agreed rate of remuneration to the attendants in all the asylums in Ireland. This rate was settled at a conference between representatives of the committees and of the attendants in all the asylums. Recently, the committee of the Tirconaill Mental Hospital at Letterkenny notified the staff of its intention to make a cut of 10 per cent. on the current wage. The order was peremptory and made without any conference with other asylum authorities or with the attendants. At the same moment a vacancy occurred for a head attendant, and the committee made it a condition of appointment that the head attendant should not be a member of the attendants' union. This stipulation, even more than the cut in wages, appears to have irritated the attendants.

The Apothecaries' Hall.

The Apothecaries' Hall has given notice of its intention to apply to the Oireachtas in the present year for permission to bring in a Bill, the main object of which is to alter the title of its licentiates. At present the licentiate is styled simply "Licentiate of the Apothecaries' Hall, Dublin," and the Hall wish in future to use the description, "Licentiate in Medicine and Surgery of the Apothecaries' Hall, Dublin." No doubt such a change would, in itself, be an advantage both to the licentiates and to the public, since the present title fails to make it clear that the licentiate is qualified to practise medicine and surgery. A change of this sort would be useless, however, unless the new title were registrable with the General Council of Medical Registration and Education. The Hall, therefore, asks in its Bill that the registrar of the branch council should be empowered to register the proposed title as a qualification to practise medicine and surgery. If the Bill is proceeded with, it will raise in a difficult form the question of the relation of the Oireachtas to the Medical Register.

UNITED STATES OF AMERICA.

(FROM AN OCCASIONAL CORRESPONDENT.)

The Essential Property of Homologous Milk.

ON March 28th last Prof. H. Finkelstein, of Berlin University, addressed the Medical Society of Johns Hopkins Hospital on the Inferiority of Cows' Milk Feeding in Human Beings. Referring to the so-called "modified" or "humanised" milk, he said that he knew of nothing more liable to produce acute diarrhœa in human infants. Since the resulting diarrhœa is acid the cause must be fermentation not of proteins, as many theorists had claimed, but either of fats or of sugars. Prof. Finkelstein regarded the problem as a race between absorption and fermentation, the infant suffering from heterologous milks because of the delay in their absorption. That this delay actually is constant with heterologous milks he has himself shown by plotting the blood-sugar curve for infants after ingestion severally of human and of cows' milk. The curves reproduced at this lecture showed that the heterologous milk was absorbed much more slowly and less completely than the homologous, so that absorption of lactose from cows' milk was completed an hour and a half to two hours after the human milk lactose would have been completely absorbed. He was not able to point to the specific substance in heterologous milk which causes this delay, or to any specific material in homologous milk which stimulates absorption. Cows' whey was found to be delayed in its absorption equally with milk. However, if the albumin is removed from this whey, or if the whey is dialysed, the sugar in the resulting fluid is absorbed as rapidly as that in homologous milk. Dr. Finkelstein suggested that not only is the delayed absorption of cows' milk responsible for acute diarrhœa, but also that many of the chronic dystrophies may be charged to a condition of acidosis resulting from incomplete metabolism, also due to the inadequate supply of sugar to the blood-stream. Thus is opened up to the biochemist a field of investigation full of promise.

Nursing Standards.

The movement to establish the full professional status of nursing in this country gains impetus month by month. The new Yale School of Nursing has issued a prospectus for the coming academic year—the first of its existence. It will be remembered that this school is largely due to the generosity of the Rockefeller Foundation and that its aim is primarily to secure efficient nurses for the more important posts in public health work, bearing in mind the rapidly increasing demand for such workers to keep pace with the swift evolution of public health work throughout the States. At Yale the professional training of the student in the actual care of the sick will be strengthened by a knowledge of the underlying theory in regard to disease as well as the social, psychological, and hygienic aspects of the case. Specialised training is offered in medicine, surgery,

obstetrics, and pædiatrics. Full information can be had from the Dean.[1]

A somewhat similar, but in some respects more extensive, scheme has been organised in the Middle West in connexion with Antioch College. The latter institution, though founded by Horace Mann in the middle of the last century, has during the past two or three years been reorganised on an original plan which is creating much interest among American educationists. With the object of developing an all-round character, rather than to pay their way through college, the students spend each alternate five weeks of their college life employed in the factories and businesses of the near-by cities. This is not the place to discuss the merits or demerits of this kind of education,[2] but the development of a nursing school out of this general scheme is distinctly of interest. The course lasts typically for six years. The candidates receive as much theoretical training at the Miami Valley Hospital as nurse probationers normally receive. In addition, during alternate five-week periods they are taking the course for the B.S. degree only slightly modified to give emphasis to their especial interests. At the end of five years they receive their nurse's diploma. It is intended that the last year in college shall be spent in completing the science course and in obtaining practical experience in public health or industrial nursing. The geographical position of Antioch College and its close association with the large industries of the Middle West give it exceptional opportunities to find this kind of experience for senior students. The fact that during their five weeks in college the students are some 20 miles distant from the hospital wards must add a spice of variety to the training.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Treatment of Climacteric Condition by the Action of X Rays on the Hypophysis.

IN the Vienna clinics experiments are being conducted with a view to alleviating the worrying conditions of the climacterium by applying X rays to the hypophysis. At a recent meeting of the Medical Society Dr. Borak reported on the results obtained by this method in 25 women treated in the X ray department of Prof. Holzknecht. The patients had either been operated on for abdominal conditions or had been previously treated by X rays for myoma or dysmenorrhœic complaints. When climacteric conditions supervened, Dr. Borak applied small doses of X rays to the hypophysis. The effect was most gratifying. Headaches and vertigo disappeared, congestions were much less frequent, and the sleep improved. In one case only was the method unsuccessful, and the patient received hereafter an application over the thyroid which proved efficacious. The correlation between ovary and hypophysis, as well as between thyroid and hypophysis, is well known. The rationale of X ray applications to the hypophysis was based on the resemblance of climacteric conditions to vasomotor hypersensitiveness due to endocrine disturbance. The rays pass through the brain substance, which is not sensitive to them. In order to exclude suggestion, in some cases a lead filter was interposed so as to exclude all rays without the patient knowing it. No effect was noticed in such instances, but it appeared immediately when the filter was removed. Dr. Pohler, from the II. Gynæcological Clinic, reported on 165 patients subjected to the same method of treatment. He treated 54 cases of amenorrhœa, 52 of dysmenorrhœa, 51 with climacteric complaints, and 8 with dystrophia adiposo-genitalis. The last-named group showed no effect at all, but 50 to 80 per cent. of all the other cases had a marked improvement. All cases received repeatedly small doses only. The effect seems to persist for some months and is regarded by Holzknecht rather as the stimulation of a hypo-functionating gland than as the depression of a hyper-function. The addition of lime to the diet of these patients is also beneficial.

Statistics of Deaths due to Poison.

Quite a number of criminal attempts at poisoning have recently turned the attention of the public to the importance of poisonous substances obtainable without much difficulty by any would-be murderer. The records of accidental poisoning—chiefly in factories and workshops—also show that many people are handling poisons daily without due precautions. A report by the Board of Health of Vienna on the autopsies of the last 40 years conducted for forensic purposes—i.e., where death was due to external violence—states that out of 9664 such autopsies nearly 10 per cent. (948) were necessitated by poison. These deaths include 296 cases caused by gas; 144 by mineral acids and alkalies; 20 by mercuric chloride; 104 by phosphorus—no doubt taken as an abortifacient; 27 by arsenic; of these last-named only two cases were criminal. Forty-four deaths were due to poisonous mushrooms; 55 to veronal; carbolic acid killed 48 persons, whilst 46 succumbed to morphia, opium, or codeine; amongst these, two infants under 12 months, poisoned accidentally by an overdose of codeine. Prussic acid or potassium cyanide was the cause of death in 39 cases, potassium chlorate in 6, strychnine in 5, methyl alcohol in 9, whilst benzene and gasoline proved fatal in 5 instances and carbonic acid (CO_2) and CO in 26. It is interesting to note how few cases of criminal poisoning really prove fatal; arsenic in particular is "not reliable," whilst lead carbonate is slightly more popular with murderers. The chief source of danger of poisons is the neglect of precautions by factory workers. With the improvement of the system of industrial inspection, as stipulated by the new Factory Inspection Act, a large percentage of these accidental cases will be done away with, and the prohibition of the use of white phosphorus, which has now been in force for a few years here, has also had a most welcome effect. But of late cocaine hydrochloride has become a very potent source of danger. The cocaine habit has caught hold of so many of our weakened, morally unstable citizens that the police have had to take a firm stand against sellers of the drug to stop the traffic in restaurants and public-houses. Several fatalities have already been reported as a consequence of this habit.

Municipal Welfare Centres for Pregnant Women.

The Municipal Board of Health has organised an interesting system of maternity welfare centres, which has been in efficient working order now for some time. Out of the total of approximately 30,000 parturient women per year, 10,000 belong to the so-called better classes, 15,000 are members of one or another Krankenkasse, and the remaining 5000 have no corporation or wealthier friends to look after them. It is to these 5000 women that the municipal board turns its attention. In order to induce prospective mothers to apply to them the maternity centres offer a weekly grant of 50,000 kronen, together with free advice, treatment of the newborn, and free milk—all for a period of at least four weeks. The conditions are that the woman does not belong to a Krankenkasse, that she is poor, and that she submits, within the first four months of her pregnancy, to a Wassermann test. By this means the Board tries to find out all cases of syphilitic mothers and to subject them to a vigorous specific treatment. Statistics show that among 1700 syphilitic females who received no treatment during their pregnancy, 34 per cent. had a stillborn child or an abortion, 56 per cent. were delivered of a living child, which did not survive longer than five years, and the offspring of the remaining 10 per cent. lived longer, but were not healthy—they filled the hospitals and criminal

[1] Yale School of Nursing, Brady Memorial Laboratory, 330, Cedar-str., New Haven, Connecticut.

[2] Literature will be furnished, on request, by the Dean, Antioch College, Yellow Springs, Ohio.

asylums or were cripples. The years of war have resulted in a widespread infection of the lower classes, and the advantage of having yearly 5000 of the future mothers under control is obvious. Fifteen such maternity centres have been opened in Vienna, and have taken up their work. No doubt, in a short time the Krankenkasse will have to follow the example set by the city authorities.

Unveiling of a Commemorative Tablet to Zuckerkandl.

A short time ago an "In Memoriam" tablet to Prof. Zuckerkandl, the famous teacher of anatomy, was unveiled in the University hall of Vienna in the presence of a large gathering of former pupils and friends of the deceased. To illustrate the importance of this man's work, I may say that the astonishing development of modern rhinology is based principally on his researches into the anatomical conditions of the nasal structures and the accessory sinuses. A splendid collection of dry and wet specimens formed the foundation of his publications and is the pride of the Vienna Anatomical Institute. In addition, he was an excellent teacher, always prepared to keep the attention of his pupils by interesting comparisons with pathology, and, moreover, he was a keen artist, who imbued all who came in touch with him with the sense of beauty, even in the most unexpected objects. Prof. Tandler, pupil and successor of the celebrated teacher, handed over the tablet to the authorities of the University.

Summer Post-Graduate Courses.

The fees for University studies have been increased for the coming term to such an extent that they form a heavy burden to the poorer classes of students. Also the fees for matriculation for the degree of M.D. and for the doctor's diploma have been raised, the latter now costing 650,000 kronen, or £2. The classes for post-graduate work have become more expensive in proportion, especially for foreign students, but still they are below the pre-war rates if the gold value is taken as a standard. Yet the attractions of the numerous excellent post-graduate classes are so great that students flock from all corners of the world; the classes in July, August, September have already enrolled almost their full complement.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

"Loans of Honour" to Students.

LARGE numbers of students have been compelled to give up their studies owing to the rise in the cost of living, for although bursaries are provided by the various faculties, these cover the fees only, and the student must find for himself the money to meet the expenses of lodgings, food, and clothing during the years of his academic life. To render help in this necessary outlay the State has instituted, by a decree recently voted by the Chamber of Deputies, a system of "loans of honour." A student who requires aid may submit his request for a loan to a commission consisting of representatives of both professors and students, on the understanding that the money shall be refunded by him after graduation as soon as his means permit.

Franco-Anglo-American League against Cancer.

A general meeting of this League was held on April 8th, at which Senator Paul Strauss presided. The League was founded during the war with the object of attacking by every means the problem of the dread disease, and is a fine example of what can be done by international coöperation, not for the destruction but for the amelioration of human life. This year the League has established branches in Greece and in Spain, and year by year its work, scope, and material resources are becoming more and more important. It is only by united effort, financial as well as scientific, that the sinews of this war can be strengthened, and on April 12th the League held a remarkably fine exhibition of all the works of the painter Degas. This exhibition, which was inaugurated by the Queen of Roumania, realised a large sum of money; a programme signed by the Queen was sold for 1500 francs, and a flower which she had worn brought 500 francs.

Reception of Scottish Medical Students.

The annual visit of some 50 medical students of both sexes from Edinburgh University, who have come to take the course of instruction in our obstetrical clinics, began on Sunday, April 6th, when the Scottish students were met at the Gare St. Lazare by a delegation of their Parisian comrades and representatives of the Section of Medicine of the Association Générale des Étudiants. As in former years, the Association undertook the organisation of the visit. Prof. and Mme. Brindeau greeted our new guests, and after a cordial welcome and enthusiastic hurrahs several charabancs took the visitors to the Students' Union for supper, at which Mr. Gannat, in the name of the Section of Medicine, proposed the toast of "The Scottish Students," to which Mr. J. B. Colquhoun replied. On Monday, at 9 o'clock, a formal reception was held by the Dean, assisted by Profs. Brindeau, Couvelaire, and Jeannin, and the Dean expressed the honour which was felt by the Medical Faculty of Paris in welcoming the guests. Afterwards the students were allotted to the clinics of La Pitié, Baudelocque, and Tarnier. The Section of Medicine received the professors and the Scottish students on Thursday, April 10th, on the occasion of a soirée artistique.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Surg. Comdrs.: W. T. Haydon to the *Ajax* (on becoming ship of Senior Officer, Reserve Fleet, the Nore); P. T. Nicholls to the *Centurion*, as Squadron Medical Officer (on transfer of flag); and F. Cock, to the *Thunderer* (on becoming ship of Senior Officer, Reserve Fleet, Devonport).

Surg. Lt.-Comdr.: S. R. Johnson, appt. to R.N. Sick Quarters, Dartmouth (cancelled).

Surg. Capt. E. Sutton to be Surg. Rear-Admiral.

Surg. Capt. H. C. Whiteside assumes charge of the R.N. Sick Quarters at Shotley Boys' Training Establishment, and Surg. Capt. L. M. Morris is appointed to Haslar Hospital.

Surg. Capts.: R. F. Clarke to the *Vivid*, addl., for R.N. Barracks, Devonport; J. H. Fergusson to the *President*, addl., for three months' post-graduate course (on relief); E. Cameron to the *Cardiff*, as Squadron Medical Officer; and W. N. Blatchford to the *Pembroke*, addl., for R.N. Barracks, Chatham.

Surg. Lts.: J. Gaston, to the *Ajax* (on becoming ship of Senior Officer, Reserve Fleet, the Nore); and A. C. Esmonde, to the *Centurion*, for Squadron duties (on transfer of flag).

F. B. Quinn to be Surg. Lt.

ROYAL AIR FORCE.

F. T. Boucher is granted a short service commission as a Flight Lt.

INDIAN MEDICAL SERVICE.

Maj. P. K. Gilroy has been appointed to act as Senior Surgeon, Jamsetje Jaghibhoy Hospital, Professor of Surgery, Grant Medical College, and Presidency Surgeon, First District, Bombay. Capt. B. F. Eminson has been posted for general duty to St. George's Hospital, Bombay. Major R. H. Candy acts as Civil Surgeon, Hyderabad (Sind); Lt.-Col. R. F. Steel, Civil Surgeon, Ahmednagar, acts as Civil Surgeon, Poona; and Capt. E. T. N. Taylor acts for him at Ahmednagar.

VIENNA MEDICAL FACULTY.—The thirteenth international Course of Lectures in Medicine will take place in Vienna from June 16th to 29th inclusive, the subject being the Latest Developments in Surgery, Orthopædics, Urology, Gynæcology and Obstetrics, to be followed by a course of clinical instruction from June 30th to July 5th. A full programme may be obtained from Prof. Dr. A. Tischel, Dean of Vienna Medical Faculty, Universität, 1, Ring des 12. November, Vienna.

Medicine and the Law.

CRIMINAL RESPONSIBILITY: LORD DARLING'S BILL.

A BILL "to declare and amend the law relating to the criminal responsibility of accused persons" has been introduced in the House of Lords by Lord Darling and appears likely to become the law of the land before very long. It is a short measure containing only two effective sections, the first of which introduces an important and the second an unimportant alteration in the law under which a person alleged by those defending him to have been insane when he committed a criminal act may be found "guilty but insane."

Section 1, Subsection (1) of the new Act, if the Bill passes unaltered, will provide that "a person is not responsible to the law for an act or omission charged against him as a crime, if, at the time of doing the act or of making the omission, he is proved to be suffering from such a state of mental disease as deprives him (*a*) of capacity, at the time, to know, understand, and appreciate the physical nature and quality of the act done or omission made; or (*b*) of capacity to know, understand, and appreciate at the time that the act done or omission made was wrong." This is evidently intended to crystallise in the form of a statutory enactment, with somewhat different phraseology, the rule laid down by the judges in McNaghten's case, under which the defence must prove, in order to establish a plea of insanity, that "at the time of the committing of the act, the party accused was labouring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing, or if he did know it, that he did not know he was doing what was wrong." It will be observed that, as in the rule that has hitherto prevailed, the Bill speaks of knowledge that the particular act done was "wrong." It does not suggest a general power to distinguish right from wrong, or to appreciate what is or is not unlawful. In this and other respects it appears neither to add to nor to detract from the effect of the rule in McNaghten's case.

Subsection (3), however, introduces a change long advocated by members of the medical profession, and suggests that observations of Lord Darling and other judges, when confronted with the suggestion of an "uncontrollable impulse" on the part of a prisoner before them, may have been due to a desire to administer the law as it stood, rather than to an uncompromising admiration of its effect. Paragraph (*c*) of Subsection (1) has for its object to render the accused not responsible to the law:—"If at the time the act was done or omission made he was suffering from such a state of mental disease as therefrom to be wholly incapable of resisting an impulse to do the act or to make the omission." It may be pointed out here that the mental disease must be such as not merely to weaken the power to control the impulse, but wholly to do away with it.

Subsection (2) of Section 1 deals with one of the points raised in McNaghten's case, the question of the weight to be given to delusions on the part of the prisoner in determining his responsibility. It provides as follows: "A person who is suffering from mental disease at the time of doing the act or of making the omission charged against him as a crime, and by reason of such mental disease is affected by delusions on some specific matter or matters, but whose mental condition does not render him irresponsible to the law within the meaning of Subsection (1) of this section, is criminally responsible for such act done or omission made to the same extent as if the facts with respect to which such delusions exist were real."

In McNaghten's case the judges were of opinion that "notwithstanding the party did the act complained of with a view, under the influence of insane delusion, of redressing or revenging some supposed grievance or injury, or of producing some public benefit, he is nevertheless punishable, according to the nature of the crime committed, if he knew at the time of committing such crime that he was acting contrary to law." The principle appears to be the same—that is to say, the delusions are not to be taken into account, as by themselves excusing an act which otherwise would constitute a crime. The Bill, however, ignores the suggestion that appreciation of the illegality of the act committed should form a test of responsibility.

Section 2 has for its object the substitution of a verdict of "not guilty on the ground of insanity," for that of "guilty but insane," now returnable under Section 1, Subsection 2, of the Trial of Lunatics Act, 1883. The change has often been advocated. It is obviously illogical to declare a man guilty and at the same time to absolve him from the usual consequences of an act for which guilty intent is essential.

The alteration of the wording of the verdict will make no difference to the manner of dealing with the person as to whom it is found, for only the subsection of the Act of 1883 referred to above is to be repealed by the new measure, for which the title "Criminal Responsibility (Trials) Act, 1924," is proposed, and which is not to extend to Scotland or Northern Ireland.

HARNETT *v.* BOND AND ADAM IN THE COURT OF APPEAL.

THE trial of the action brought by Mr. W. S. Harnett against Dr. C. H. Bond and Dr. G. H. Adam, arising out of the confinement of the plaintiff in various asylums, following a visit to the office of the Commissioners in Lunacy, when released on probation from Malling Place, where he had been under the care of Dr. Adam, was reported in THE LANCET of March 8th, p. 511. The appeal of the defendants, who asked for judgment or for a new trial, was heard by Lords Justices Bankes, Warrington, and Scrutton, the arguments of counsel occupying seven days. In the appeal Sir Douglas Hogg was added to the counsel who appeared for Dr. Adam, and Sir John Simon led for the respondent Harnett. The Attorney-General, Sir Patrick Hastings, as before, led for Dr. Bond.

It will be remembered that the jury gave the following answers to questions submitted to them:—

1. Did Dr. Bond cause the plaintiff to be detained at the office until the attendants came for him?—Yes.
2. Did he cause him to be sent back for the purpose only of his being examined by Dr. Adam or for the purpose of his being detained at Malling Place?—Being detained at Malling Place.
3. Did Dr. Bond cause the plaintiff to be taken back?—Yes.

Did he and Dr. Adam agree, after consultation, that the plaintiff should be sent for and taken back?—No.

Was the taking back entirely the act of Dr. Adam?—No.

4. Was the plaintiff of unsound mind on Dec. 14th, 1912?—No.

Was he fit to be at large?—Yes.

Was he dangerous to himself or to others?—No.

5. Did Dr. Bond honestly believe that the plaintiff was of unsound mind, not fit to be at large, and dangerous to others?—No.
6. Did he believe that the plaintiff had escaped from his brother's charge; and, if so, was that his reason for having him sent back?—Yes.
7. Did he take reasonable care to ascertain the true facts?—No.
8. Did he honestly believe that Dr. Adam had retained the power of retaking the plaintiff during his 28 days' leave of absence?—Yes.
9. Did Dr. Adam, when he received the telephone message and sent his car, honestly believe that the plaintiff, on Dec. 14th, 1912, was of unsound mind and unfit to be at large?—Yes.
10. Did he honestly believe that it was in the plaintiff's interest that he should be taken back to Malling Place?—Yes.
11. Did he take reasonable care in doing what he did?—No.

12. Did he make it known to the plaintiff that he was liable to be retaken if his mental condition required it?—No.

13. Was the detention of the plaintiff at the Commissioners' Office the act of Dr. Bond alone, or was it really the act of both defendants?—Dr. Bond.

As to damages, the jury awarded £25,000 against the defendants jointly, apportioning £17,500 as against Dr. Bond, and £7500 as against Dr. Adam. In the event of the defendants being held to be liable only for the detention of the plaintiff by Dr. Adam they awarded £7500 against Dr. Bond and £2500 against Dr. Adam, and alternatively for the detention of the plaintiff by Dr. Bond at the Commissioners' office, £5000 against Dr. Bond. Judgment on these findings was eventually entered by Mr. Justice Lush for £5000 against Dr. Bond, and £20,000 against him and Dr. Adam jointly.

In opening the appeal on behalf of Dr. Bond, the Attorney-General referred to the extreme importance of the case, judgment having been given against Dr. Bond for £25,000 on the ground of his alleged responsibility for the whole period of the plaintiff's detention, the important effect of which must be that no medical man would ever again certify a man whom he believed to be insane, if, that is to say, in the event of his being found to have been negligent, he was to be held responsible at law for all damages that flowed therefrom. The relevant evidence, counsel said, was that which showed the state of the plaintiff's mind on and about Dec. 14th, 1912, when he went to the office of the Commissioners in Lunacy. Going through the whole of the evidence as to the state of Mr. Harnett's mind, the Attorney-General dwelt upon the details of his visit to Dr. Bond, bringing with him a bag containing £30, and displaying it as an inducement to Dr. Bond to send with him at his expense an official to prevent his brothers and his wife from carrying out a plot against him. The effect of the judgment would be that doctors would decline to certify, and the country would be flooded with lunatics who ought to be in asylums. The grounds of appeal were (1) that the verdict was against the weight of evidence; (2) misdirection; (3) that the damages were excessive; (4) that the damages given were not recoverable as they were too "remote." The long detention of Mr. Harnett was not the direct consequence of the act of Dr. Bond, but followed upon a *novus actus interveniens*, consequently the £20,000 damages were "too remote," and, further, on the verdict of the jury, the judgment for £20,000 jointly against the two defendants could not stand, as the answers of the jury (see answers 1, 3, 13) negatived a joint liability. The relevant evidence showed the plaintiff to have been temporarily insane at the material time.

Mr. Harold Morris, K.C., following for Dr. Bond, read the judgment in the court below, and submitted that it was for the jury to determine what share each defendant took in the prolonging of the period of detention. Dr. Bond had taken no part in the matter after Dec. 14th, and had had judgment for £20,000 jointly entered against him.

Lord Justice Bankes observed that there was no verdict against Dr. Adam for £20,000, but one for £25,000; yet there had been judgment against him for £2000. The court had to decide which of alternative findings by the jury was right in law.

In the course of further argument Lord Justice Bankes called attention to answers (see 3 and 9) as to Dr. Adam's belief as to the plaintiff's condition, and, further, to the necessity for ascertaining whether there was evidence that Dr. Bond did not honestly believe the plaintiff to be of unsound mind. Cases cited as to the question of *novus actus interveniens* were Weld-Blundell *v.* Stephens (36 *Times* L.R., 640; [1920] A.C., 956); Ward *v.* Weeks (7 Bing., 211); Parkins *v.* Scott (1 H. and C., 153).

Sir Douglas Hogg, opening the case for Dr. Adam, submitted three points for consideration: (1) that the burden of proof that Dr. Adam acted without reasonable care lay on the plaintiff; (2) that in any case Dr. Adam had acted with reasonable care when he sent a motor-car for the plaintiff on Dec. 14th; (3) that Mr. Justice Lush ought to have told the jury that the criterion of reasonable care on the part of Dr. Adam was "what were the facts reasonably known to him when he received the telephone message from Dr. Bond?" He cited cases Williams *v.* Beaumont (10 *Times* L.R., 343); Shackleton *v.* Swift ([1913] 2 K.B., 304). He went on to say that it must be borne in mind that it was not an uncommon result of a patient being allowed to go out of an asylum on leave that he should have a relapse. It seemed to have been assumed also at the trial that once a patient was received in an asylum he never got out of it again. The jury was misdirected when told they might take into account events following on the drive back to Malling Place. Subsequent detention was due to the view formed by Dr. Adam after the patient was returned to his care. The only tort alleged against Dr. Adam was his having the plaintiff brought back to Malling Place, and there was no finding of the jury as to damages due in respect of that act.

Sir John Simon, opening the case for the respondent, Mr. Harnett, proposed to deal with it separately as against (1) Dr. Bond, (2) Dr. Adam. Certain alleged wrongful acts were done either in agreement between the two or in the alternative by one or other of them. The plaintiff's case was that he was sane on Dec. 14th, 1912. His mental illness was caused by an injection of tuberculin which had produced toxic insanity, but not a mental disease. His religious mania had passed, and he was cured by Dec. 12th when he left the home. It was an extraordinary coincidence that when he finally escaped he should then be admittedly sane. The act of imprisonment for which Dr. Bond was responsible went on until there was a *novus actus interveniens*. The probation order had created for the plaintiff the status of a free man until revoked, which it had never been; and when once the jury had found that the plaintiff's condition did not require his detention, it followed that his imprisonment by Dr. Bond extended beyond the time for which he was kept in the Commissioners' offices, so that the jury were entitled to award damages in respect of it. There was no *novus actus interveniens* and no defence to the action as far as Dr. Bond was concerned. As against him the jury could take into consideration at least the period up to November, 1913 (when the plaintiff left Malling Place).

Sir John Simon proceeded to argue that the whole of the procedure adopted by Dr. Adam under the probation order was wrong. He could not revoke it on receipt of a telephone message. Steps should have been taken to re-commit the plaintiff to the asylum under Sections 15 and 16[1] of the Lunacy Act, 1890, which, counsel contended, though primarily intended to apply to persons not before certified, were wide enough to cover the case of a patient on probation. There had been no independent medical testimony as to the plaintiff's condition as required by the Act, and no independent investigation before a judicial officer. Dr Adam's action constituted a trespass *ab initio*. He was not protected by Section 330 of the Lunacy Act, 1890, as the jury had found that he had acted without reasonable care. The onus was upon him to prove that he had acted with such care, and there was ample evidence to support the jury's finding. Sir John Simon laid stress on the evidence that Dr. Adam only saw the plaintiff a few hours after his return, and argued that the jury had to consider his conduct at the relevant time. Mr. Harnett had been found by the jury not to have been then insane, and there had been a joint tort at a certain period committed by the two defendants. There was no ground for construing the probation order as conferring upon them a power of arrest.

[1] Sections 15 and 16 relate to the duties of constables, justices, and medical practitioners in connexion with the reception and detention in asylums of pauper and other lunatics "wandering at large."

Mr. J. B. Matthews, following on behalf of the appellant, Mr. Harnett, said that Dr. Adam had relied in his pleadings on Section 330 of the Lunacy Act, 1890,[2] but was not entitled to do so as he knew the Commissioner had no right to arrest, and that he himself had no right to send keepers to arrest, the plaintiff. A *novus actus interveniens* to be relied upon must be something coming from the outside, therefore what Dr. Adam did was not a *novus actus interveniens* so as to protect Dr. Bond, as they were joint tort feasors. Nor was Dr. Passmore, to whose care Mr. Harnett was consigned later, a *novus actus*, as the business had been "framed up" and Dr. Passmore's mind poisoned against the plaintiff.

Counsel relied upon Chamberlain *v.* King (L.R. 6 C.P. 474), Griffith *v.* Taylor (2 C.P.D. 194), Hermann *v.* Seneschal (13 C.B., N.S. 392).

Sir John Simon then submitted further that omission to discover the true condition of the plaintiff could not constitute a *novus actus interveniens*; that if the *novus actus* put forward was induced by the defendants' own action it would not protect them; there might be more than one cause of an act being done, and one such cause might be the conduct of the defendants. In that case, so far as the defendants were concerned, the *actus* would not be *novus*. Sir John Simon referred to Pollock on Torts, 12th edn., p. 240; Ratcliffe *v.* Evans [1892] 2 Q.B., p. 430 (a passage in a judgment by Lord Justice Bowen).

Mr. Harold Morris, replying on behalf of Dr. Adam, referred to Section 55[3] of the Act, and argued that in its true meaning it authorised the medical officer of an asylum to decide whether a patient, released on a probation order such as that under discussion, should be brought back. If that view was correct Dr. Adam was protected, and if he had committed no tort there could be no joint tort by him and Dr. Bond.

Sir Douglas Hogg, replying on behalf of Dr. Bond, contended that in the Lunacy Act, 1890, the words "take" and "retake" are used in contradistinction to "receive," and that they were used in the Act in such a way as to justify the course pursued in the case of the plaintiff. That course was adopted under sections contained in Part II. of the Act which was distinct from Part I., the latter providing for the care of lunatics at large and their certification, whereas Part II., containing Section 55, related to care and treatment after reception. Reports after reception were made by experts, and were not judicial inquiries such as were directed by Part I. The onus of proof of want of reasonable care, Sir Douglas Hogg contended (citing Williams *v.* Beaumont and Duke (10 *Times* L.R. 543)), was upon the plaintiff. There was no want of reasonable care on the part of Dr. Bond in the taking back of the plaintiff to Malling Place, or on the part of Dr. Adam in acting upon what was said to him by the Commissioner in Lunacy.

The arguments of counsel having been concluded, Lord Justice Bankes intimated that the Court would not deliver judgment until after the Easter vacation.

[2] Section 330 protects from civil or criminal proceedings on the ground of "want of jurisdiction or any other ground" any person who has done anything in pursuance of the Act provided he acted "in good faith and with reasonable care."

[3] Section 55 relates to the "Absence on Trial for Health" of a patient and gives powers to the manager of a hospital, or licensed house, to permit absence on trial, subject to conditions which include the consent of a commissioner.

THE LATE DR. A. M. ADAMS.—Dr. Alexander Maxwell Adams, of Tibshelf, who died recently at the age of 60 years, was son of the late Mr. A. M. Adams, F.R.C.S.E., of Friarsfield, Lanark, and belonged to a well-known medical family in Scotland. Dr. Adams was educated at Lanark Grammar School and at Edinburgh University, where he graduated M.B., C.M. in 1884. His first post was that of sub-curator in the Pathological Museum of Victoria University, Manchester, after which he had some experience of general practice in Scotland. Later he became Protectorate Surgeon in Gambia, West Africa, and engaged in research work on sleeping sickness, publishing the results of his investigations in 1903, when their merit was recognised by a diploma of the First Class bestowed on him by the University of Palermo, Italy.

Correspondence.

"Audi alteram partem."

THROMBOSIS, PULMONARY AND ELSEWHERE.

To the Editor of THE LANCET.

SIR,—We must all have read with much interest the full discussion on pulmonary thrombosis, embolism, and allied conditions, held at Liverpool on March 14th and reported by you on April 12th.

Concerning the clinical distinction between pulmonary thrombosis and embolism, I think there is rarely, if ever, any difficulty. An embolism always (?) causes instant distress, panting, dyspnœa, and often hæmoptysis. Thrombosis, rapid as it may be, is gradual. A case which I witnessed a few years ago may be worth recording.

I was asked by a colleague to see with him a case of acute pneumonia in a man of middle age. It was a case of some severity, and we met two or three times until crisis having occurred normally I took my leave with words of congratulation to the patient and his friend. It was in a humorous spirit that, on bidding my medical friend good-bye, I said you will have no more need of me unless the patient gets a clot in his pulmonary artery. A day or two later (I have no notes, unfortunately) my colleague telephoned to me that all seemed well but that the patient "felt bad." On further inquiry I was told that the pulse was 82, the respirations easy, and the temperatures normal. This seemed so reassuring that I replied that I hoped no more was the matter than a reaction from severe illness. However, in a day or two again my friend telephoned that the symptoms were still as before, but that the patient still said that he "felt bad." I was not definitely requested to visit the patient again (he lived some distance away), and on the record given I hoped he would soon recover his strength and spirits. In another day or two the telephone gave the same message. The patient still "feels bad," please come over at once.

On my arrival one saw at once he *was* "bad." He was sitting up in bed, not panting, but distressed, a little ashen in colour, and he had the appealing look of a man in dread. Still temperature normal, respirations not obviously hurried—say 18 to 20—pulse of excellent quality—82—and heart-sounds normal. Nothing definitely abnormal to be heard in the lungs. An invalid diet was taken as usual. There was no doubt about the diagnosis of thrombosis. Carbonate of ammonia was pressed in doses as large as possible, but no hope of recovery could be given. For about two days more the patient remained much the same—no worse; then as the nurse was counting the pulse—it was still 80 and quite regular—he turned suddenly over and died, the pulse stopping on the instant under her finger. The autopsy went no farther than to reveal a dense pale clot in the pulmonary artery. During its formation the patient must have lived at least seven or eight days; while the only tell-tale was his aspect, which was unmistakable. It was something like that of angina, but there was no pain.

May I now say a few words on thrombosis of the limbs in infections and septic conditions? In ordinary practice nowadays we see little of the infectious fevers, but I am thinking of days, not very long ago, when typhoid fever was frequent, and further back to a time when I had entire charge of the Leeds Fever Hospital. Thrombosis of the veins of the legs was no rare accident, less frequently of an arm; sometimes we had to deal with the far more grievous event of thrombosis in the popliteal or femoral artery. These accidents were events of convalescence, especially of the early stage of it. Now one of the first reliefs to which such a patient looks forward is to turn,

or be turned, to lie upon his side, or at least to lift one leg over the other, or to turn so as to lie upon an arm. Thereupon pressure falls on a blood-vessel, slows its current, and a clot may ensue. Then and since I have given strict orders to nurses to shift such patients, or to let them shift themselves only with very careful precautions, such as the insertion of a soft pillow between the legs, and the like. By these means thrombosis of the limbs could always be prevented. As I have never seen this point of practice mentioned in any book or essay, I have ventured to quote my own experience.

We used to read of thrombosis of the cerebral sinuses in chlorosis; I say "used to," because for some unexplained reason chlorosis is a disappearing malady. I remember one case only of this thrombosis. I was called by a medical friend to a large Yorkshire house in consultation on a young woman in chlorosis—a "classical" case. Our opinion, both as to prognosis and cure, was hopeful and confident. Two days later the patient died, almost suddenly, of encephalic thrombosis—a mishap which was not placed to the credit either of my colleague or of myself. I think these cases were very rarely seen at any period of history.

I am, Sir, yours faithfully,

Cambridge, April 15th, 1924. CLIFFORD ALLBUTT.

MALTA FEVER AND EPIZOÖTIC ABORTION.

To the Editor of THE LANCET.

SIR,—In an annotation on this subject, which appeared in THE LANCET of Feb. 9th (p. 297), reference is made to the similarity between the causal organisms of these diseases and to the fact that in America a case of Malta fever has been identified in a patient who "had never been abroad, nor for a long time outside the city of Baltimore, and had had no contact with goats," and from whom a strain had been isolated belonging to the abortus subspecies. It is stated in your annotation that "we have here, then, apparently *for the first time*, an example of variation in the pathogenic relations of this organism." (The italics are mine.) I venture to draw your attention, therefore, to a paper [1] entitled Infectious Abortion of Cattle and its Possible Relation to Human Health, which I read before the Southern Rhodesia Veterinary Association on Nov. 12th, 1921, and which terminated with the following summary of conclusions:—

1. The disease known as infectious abortion of cattle, which exists in Southern Rhodesia, is caused by the *B. abortus* of Bang, and serological tests indicate that it is identical with the specific abortion of cattle in other parts of the world.

2. The *B. abortus* of Bang bears a close morphological and biological resemblance to the *M. melitensis*. Serological tests also indicate a close affinity, in that certain strains of *M. melitensis* can be agglutinated with serum from cattle infected with infectious abortion, and strains of *B. abortus* can also be agglutinated by serum from human patients suffering from undulant fever.

3. The characteristic symptom of undulant fever in goats and sheep is abortion.

4. Certain cases presenting symptoms resembling undulant fever have occurred in Southern Rhodesia in men who, as far as is known, have not obtained infection from goats, but have resided on farms where animals are, or have been, infected with infectious abortion.

5. It is suggested that these cases are suffering from an infection caused by the *B. abortus* of cattle.

6. It is also suggested that human females may contract infectious abortion through the ingestion of the organism in milk and dairy products from infected cows.

7. Although infectious abortion is prevalent in other parts of the world where goats' milk is not used for human consumption, it has not been accused of causing the symptoms of undulant fever in man, nor has it been proved to cause abortion in human subjects.

8. Although infectious abortion has prevailed in the Marandellas district for many years, it is only within the last few months that cases resembling undulant fever in man have been recorded.

9. While circumstantial evidence points to the infection of man by the *B. abortus* of Bang, and scientific tests up to a point support this suspicion, the final proof is not yet available.

10. If infectious abortion is essentially a bovine disease, a grave responsibility attaches to the Veterinary Department, and if this disease is communicable to man, a hearty coöperation between the medical and veterinary professions is necessary in dealing with it.

Since this article was written cases have continued to occur in this country under similar circumstances, but, strange to say, it generally happens that only one member of the family becomes infected—sometimes the husband, sometimes the wife, and occasionally a child or a visitor. In one instance it was the unfortunate mother-in-law who, during a short visit, contracted the disease, while the other members of the family remained healthy. Such circumstances do not point to infection through the milk, but no explanation is at present forthcoming as to why certain individuals are susceptible or how the infection of cattle can become virulent to man.

Although from recent literature on the subject it would appear that veterinary authorities do not consider the danger a real one, I would suggest that if members of the medical profession would apply the agglutination test to the blood of those suffering from the obscure pyrexias referred to in the annotation, or of their female patients suffering from sterility or abortion, evidence might be obtained that epizoötic abortion of cattle is another of the numerous diseases of animals communicable to man; and far more dangerous than is generally believed.

I am, Sir, yours faithfully,

LE E. W. BEVAN,
Director of Veterinary Research, Southern
March 20th, 1924. Rhodesia, S.A.

*** In *Public Health Reports* for March 14th, 1924, appears an interesting survey of what is known of human infections with *B. abortus*, by Miss A. C. Evans. There seems to be no doubt that such occur, partly as illnesses resembling Malta fever, more frequently as unrecognised infections leaving serological evidence in the form of specific agglutination. Many people are exposed to infection through drinking raw cows' milk in which the organism of contagious abortion is not uncommon.—ED. L.

DOCTORS AND ADVERTISING.

To the Editor of THE LANCET.

SIR,—In your issue of March 29th Dr. Harold Spence agrees with the suggestion I made in a letter appearing in your columns on March 1st, that the public have no easy and reliable method of obtaining information regarding specialists in venereal disease, that consequently they are liable to fall into the hands of pseudo-specialists, and that a register of specialists under the various diseases or branches of medicine—giving details of work and record on which such special experience is based—is desirable. I made no suggestion regarding *selection* of names of persons qualified to "style himself a specialist," and certainly did not suggest that "only those who maintain a hospital connexion are eligible to be described as specialists."

I cannot agree with Dr. Spence that it would be right or proper for the General Medical Council to decide who was or was not entitled to call himself or herself a specialist in any disease. All I suggested was that an easily accessible register should be drawn up containing the names of *all* medical practitioners practising in special branches of their profession, together with full details of their work and experience in these particular fields. The public would then be in a position to judge for itself, and would have sufficient data to enable it to select the professional help it required.

I am, Sir, yours faithfully,

H. WANSEY BAYLY.

Harley-street, W., April 19th, 1924.

[1] Reproduced in the Transactions of the Royal Society of Tropical Medicine and Hygiene, Jan. 19th, 1922.

INSULIN BY THE SKIN AND MOUTH.

To the Editor of THE LANCET.

SIR,—Major H. H. King will find in THE LANCET of Oct. 6th, 1923 (p. 777), that a negative result was obtained by my colleagues and myself after administering insulin per rectum in a case of diabetes. The necessary control experiments were carried out.

I am, Sir, yours faithfully,

London, W., April 15th, 1924. E. P. POULTON.

CERTIFICATES OF INSANITY.

To the Editor of THE LANCET.

SIR,—I share with Dr. Suttie the view that it may be sought to enact that certificates shall be shown to patients under care and treatment in virtue of such documents. This view is based, so far as I am concerned, firstly on one of the suggestions contained in a letter by a critic of lunacy administration to *The Times* of March 17th, which I ventured to examine in your issue of March 29th; and, secondly, upon a legal attitude disclosed in the recent trial before Mr. Justice Lush, from which it appeared that it was regarded as surprising and even monstrous that certificates were not as a matter of course shown to patients. My submission is that in many cases to do so would be futile and in others injurious, but my objection to a general enactment that certificates should be shown to patients does not commit me to the opinion that there are no cases in which they might be shown.

I am, Sir, yours faithfully,

E. D. MACNAMARA.

Harley-street, W., April 15th, 1924.

THE WASSERMANN REACTION IN DIAGNOSIS.

To the Editor of THE LANCET.

SIR,—The recent correspondence in these columns by Dr. J. N. Cruickshank and Mr. H. Wansey Bayly shows how important it is that the true diagnostic value of the Wassermann reaction (W.R.) should be definitely ascertained. The crux of the whole matter would appear to lie in the rightness or wrongness of Mr. Bayly's statement that "it is now . . . established that a positive reaction does not necessarily mean that the individual is syphilitic." Dr. Cruickshank is of the opinion that, so far as the new-born infant is concerned, the test is of no value whatever. On the other side, is Dr. L. W. Harrison's view that "provided that the test is carried out according to the principles of the original method, a definitely positive result indicates that the person is suffering from syphilis." He, however, enumerates some 15 non-syphilitic conditions in which positive results have been reported as occurring, and he indicates that these may be possible exceptions.

In considering these positive reports from non-syphilitic patients, two factors must be taken into account: (1) The technique by which the test was performed, and (2) the certainty with which syphilis could be ruled out in the person from whom the blood was taken. The first is of the utmost importance; and a survey of the literature on this matter for the last decade demonstrates clearly that as technique has improved the number of reports of non-specific reactions has markedly decreased. At the present day one is inclined to regard such reports as either an indication of faulty technique, or that the person from whom the serum was obtained was suffering from endosyphilis. Malaria, for example, is alleged to be capable of giving a positive W.R. In McConnell's case of malaria which ended fatally[1] the patient's blood during life gave a positive result, although clinical signs and a history of syphilis were absent. At the autopsy, however, very definite syphilitic lesions were found in the aorta. Had a post-mortem not been done, and had the diagnosis of syphilis not been made microscopically, this case would undoubtedly have taken its place among those quoted in support of the statement that malaria can produce a positive W.R.

A considerable proportion of syphilitics present no clinical signs whatever, and may even show a negative serological picture until the application of certain stimuli—e.g., iodides, a provocative injection of arsenobenzol, pregnancy, or some febrile disease. If clinical signs of the disease cannot be demonstrated, if a syphilitic history is unobtainable (and a negative history is valueless), and if a positive W.R. is not accepted, then the only way in which syphilis can be diagnosed or eliminated is by a histological examination of the wall of the left ventricle, the aorta, the testicles, pancreas, and suprarenal capsules. The post-mortem diagnosis of syphilis depends upon finding the specific histological mild inflammatory picture, consisting of lymphocyte and plasma-cell infiltrations in the stroma surrounding the blood and lymphatic vessels, particularly in the organs and tissues indicated. Strictly speaking, therefore, in no case of alleged non-specific positive W.R. can syphilis be eliminated unless it has come to the post-mortem table and proved negative on microscopic examination. Warthin[2] holds that a positive W.R. indicates syphilis except in a few rare cases of generalised malignant disease, and he finds that this view is confirmed by post-mortem findings.

The diagnosis of post-mortem syphilis which rests upon the gumma is obsolete. The histological picture of syphilis is specific, and it is due to the local action of the *Treponema pallidum* which has undergone some regression in virulence. The stimulus of iodides, arsenobenzol, or malaria is capable of rejuvenating these organisms, of enhancing their virulence, and thus producing a positive W.R. in the blood. Marcialis[3] gives the results of an investigation of the Wassermann and Sachs-Georgi reactions in 225 cases of malaria. Only 2·2 per cent. gave positive results which might possibly be attributed to malaria on the grounds that there were neither clinical signs nor any history of syphilis. But these, since they did not come to necropsy, cannot, in view of the experience of Warthin and of McConnell, be definitely declared to be non-syphilitic.

The disappearance of a positive W.R. in an infant soon after birth is, of course, a common observation even without anti-specific treatment, and it only means that the condition of endosyphilis has occurred. The practical danger of it is that the unwary may be tempted to cease treatment, or to refrain from commencing it, under the impression that the child is not syphilitic. Such an infant may present none of the usual stigmata until the occurrence of, say, interstitial keratitis after puberty. It is an appreciation of this which impels one to the view that, no matter what may be the serological condition at any time after birth, the anti-syphilitic treatment of a child born with a positive W.R. must extend at least till adolescence. The only sure criterion of cure in syphilis is that the individual again acquires a primary chancre. The only real evidence of the absence of syphilis is the failure to find the specific histological appearances after death. These tests are of little use to the living patient, so that practically we are left with the W.R.

There can be no doubt but that clinical experience and pathological investigation show that there is no more specific test in medicine than the W.R., and that the margin of error is less than 0·3 per cent. As syphilis does exist without clinical signs, there can be no avoiding the conclusion that at the very least the presence of a positive W.R. entitles the patient to the benefit of the doubt, and the expression of that is the institution of prolonged anti-syphilitic treatment.

I am, Sir, yours faithfully,

Manchester, April 18th, 1924. E. T. BURKE.

[1] Jour. Amer. Med. Assn., 1923, lxxx., 1123.

[2] Amer. Jour. Syph., vol. ii., No. 3, 1918.

[3] Gazzetta degli Ospedali e delle Cliniche, Jan. 27th, 1924.

SCHICK IMMUNISATION IN DIPHTHERIA.

To the Editor of THE LANCET.

SIR,—When the Schick test and immunisation against diphtheria is being discussed, attention is concentrated on its use to prevent diphtheria among school-children or adults such as nurses in fever hospitals. Might I be allowed to point out the extreme importance of the test and immunisation being carried out for very young children, such as those attending infant welfare centres? In London 52·6 per cent. of the 2846 deaths occurring from diphtheria in the three years 1919–21 took place in children under five years of age.

I am, Sir, yours faithfully,

C. W. HUTT, M.D.,
Medical Officer of Health, Metropolitan Borough of Holborn.

April 17th, 1924.

ELECTRIC LIGHTING AND EYESTRAIN.

To the Editor of THE LANCET.

SIR,—In your issue of Feb. 19th, 1921, you published part of my introduction to a discussion at the Royal Society of Arts dealing with Kinematographic Illumination and Eyestrain; it has occurred to me that there may be some connexion between alternating current lighting and eyestrain, which probably accounts for some preferring a type of lighting other than electric; whereas, with direct current lighting the discomfort is apparently non-existent. In my own case, I find it is far more comfortable for my eyesight when working under direct current lighting in my office as compared with alternating current lighting in my private residence.

It would be interesting to hear the experience of surgeons when conducting delicate operations under these two different conditions—alternating *v.* direct—as with alternating it is possible to detect several images of bright metallic instruments especially when these are in motion, similar to "cinematograph" action. This "cinematograph" effect is most pronounced in the low-wattage "Neon" night-light bulbs when used on an alternating current circuit. Perhaps ophthalmic surgeons could throw some light on the apparent increase in the use of spectacles in certain areas.—I am, Sir, yours faithfully,

J. C. ELVY, A.M.I.E.E., M.I.E.S.,
Consulting Engineer.

12, Tavistock-street, Strand, W.C. 2, April 10th, 1924.

*** With an alternating current, an arc lamp or a "Neon" lamp goes out every time the current reverses, but very few people work by the light of such lamps. With incandescent electric lamps, on a circuit with less than 25 alternations per second, there is a perceptible flicker in the light which undoubtedly is trying to the eyes. We understand that while there are 25 cycle plants operating on power loads which also supply lighting, there is no authority supplying alternating current at less than 50 alternations per second for lighting. But even at this speed there may be a slight cyclic variation in the light, especially from the low-power high-voltage metal filament incandescent lamp, in which the mass of the filament and therefore the stored heat energy is very low. The point is one which ophthalmic surgeons might consider.—ED. L.

MASSIVE DOSES OF DIGITALIS IN AURICULAR FAILURE.

To the Editor of THE LANCET.

SIR,—Dr. J. Jensen's short paper on this subject, published in your issue of April 12th, should serve to draw attention to a really valuable and even life-saving measure. Since the work by Eggleston and his colleagues, to which Dr. Jensen refers, showed that these large doses were safe, I have been in the habit of using a modification of their method very similar to that described by Dr. Jensen. The plan turns on the capacity of the average adult patient with auricular failure to take 3 drachms of the tincture of digitalis in the first 24 hours of treatment, if the symptoms are urgent enough to call for drastic means of relief. Dr. C. E. K. Herapath and I, in a paper on auricular failure read at a recent meeting of the Bristol Medico-Chirurgical Society, gave some account of our experiences of this plan. We have never seen any ill-effect from these large doses, while, on the other hand, we have known lives saved which would have been lost unless this plan had been followed.—I am, Sir, yours faithfully,

Clifton, Bristol, April 14th, 1924. CAREY F. COOMBS.

A CRITICAL EXAMINATION OF PSYCHO-ANALYSIS.

To the Editor of THE LANCET.

SIR,—I have read Dr. R. M. Riggall's letter to THE LANCET of April 5th. Before entering upon a controversy Dr. Riggall ought, above all, to make himself acquainted with the facts.

On p. 189 of my book I said: ". . . the facts upon which Janet's and Breuer's methods are based are, I believe, beyond dispute, but I am not concerned here with their theories. They have, however, little in common with Freud's psycho-analytic method, which was modelled upon Breuer's cathartic method. Neither am I concerned here with the dangers that arise from the bringing back into consciousness of old-forgotten memories, as is done in the cathartic method, and I shall therefore not dilate upon this subject. Suffice it to say that some authorities have pronounced themselves against this method in no equivocal manner."

Your reviewer remarked upon this that I had given no reference for the terminating statement and I therefore mentioned in my letter to THE LANCET Binswanger, whose work on hysteria was and remains a standard work on the subject. I might have given many more names, English, German, or French if I had troubled to look up references, but I thought one recognised authority would be more effective than a long string of names of lesser lights. From the above quotation it is perfectly clear that I do not take sides with reference to "abreaction" (which, by the way, was not Freud's idea, but Breuer's) and concerning this question I would direct Dr. Riggall's attention to the symposium on "The Revival of Emotional Memories and it Therapeutic Value" in the *British Journal of Psychology*, Medical Section, 1921, vol. i., pp. 16–33.

It is further evident from the above quotations that this point does not affect the main thesis of my book. I endeavoured to show that the very foundations of the psycho-analytic doctrine and its means of penetrating the "unconscious" are unscientific and fallacious, and in this I have apparently been successful, for psycho-analysts never join issue upon this main thesis, but invariably try to side-track the discussion upon unessential details.

I am, Sir, yours faithfully,

Shortlands, Kent. A. WOHLGEMUTH.

THE CENTENARY OF FRIEDRICH WILHELM BENEKE.

To the Editor of THE LANCET.

SIR,—In THE LANCET of April 12th, p. 781, it is stated that Prof. Beneke, the centenary of whose birth has just been celebrated at Bad Nauheim, was for several years chief physician to the German Hospital in London. This is not quite correct. He was house physician at the hospital from January, 1849, to the summer or autumn of 1851, and then practised his profession in Hanover. He afterwards became professor at the University of Marburg, and also took a great part in the development of Bad Nauheim. He died in December, 1882. My father succeeded him in 1851 as house physician to the German Hospital in London.

I am, Sir, yours faithfully,

London, W., April 14th, 1924. F. PARKES WEBER.

Obituary.

RICHARD JAMES REECE, C.B., M.D. CAMB.,

SENIOR MEDICAL OFFICER, MINISTRY OF HEALTH.

WE deeply regret to announce the sudden death on Easter Sunday of Surgeon-Colonel R. J. Reece, which occurred in his sixty-first year, at his country house, Basketts, Birchington.

Dr. Reece was born in Kensington and educated at the Kensington School, St. Bartholomew's Hospital, and Downing College, Cambridge, whence he graduated as M.B. in 1892, later proceeding to the M.R.C.P. Lond. and the Cambridge doctorate. He was also one of the earliest holders of the D.P.H. of the Conjoint Board. He held the resident surgical posts at St. Bartholomew's Hospital, being also ophthalmic house-surgeon, and quite early in his career published some interesting clinical notes both in these columns and in the St. Bartholomew's Hospital Reports. He joined the medical staff of the Local Government Board in 1892, under Sir Richard Thorne Thorne, and from that time onwards his admirable epidemiological and sanitary work has been at the disposal of the Government, first at the Board and later at the Ministry of Health, where at the time of his death he was senior medical officer. As medical inspector of the Local Government Board he was the author of many valuable reports on small-pox, cholera, enteric fever, cerebro-spinal fever, and acute poliomyelitis, while past experience in the service of the City and Port of London indicated the consignment to him of many administrative questions in connexion with the work of port sanitary authorities. His intensive study of the outbreak of epidemic poliomyelitis, which occurred in Cornwall and Devon 12 years ago, brought his name prominently to the front as a scientific observer of the highest class, as well as an administrator of courage and firmness. The outbreak occurred in the neighbourhood of Holsworthy in August, 1911, when the medical officer of health, Dr. W. G. Gray, recognised that certain cases of so-called "spotted fever" were occurring over a wide area but attracting very little attention, and when the initial neglect enabled the disease to spread from Bude on the west to Hartland, Swimbridge, South Molton, and eventually Tavistock, Dr. Reece was sent down by the Local Government Board to make a special investigation, and, owing to his pressure, the Holsworthy Urban Council realised the necessity for taking efficient measures. At first the council declined to provide for the isolation of cases—and there was difficulty in the accommodation of these—but Reece attended one of the sessions of the Council and informed the members that an infectious disease "that killed people" was at their doors, and that there were probably 30 cases at the moment inside their own district, while infection had extended to other districts in the neighbourhood.

When the war broke out Reece almost immediately received an appointment on the headquarters staff of the Army Medical Service, for he had been since boyhood a member of the H.A.C., giving him the official right to the now rare designation of Surgeon-Colonel. His work during the war in the administration of preventive services in regard to infectious diseases was remarkably thorough, particularly in regard to cerebro-spinal fever, which in the second and third year of the war was prevalent in various parts of the country. His accurate knowledge here was of particular value, because the disease was one of which we had little previous experience, and it proved so variable in its manifestations that mistakes in diagnosis were constantly being made. In a paper communicated to THE LANCET in March, 1917, Reece published, at the request of the Medical Research Committee, a series of notes on five cases which were primarily thought to be cerebro-spinal fever, but which proved ultimately to be acute anthrax. Confusion in the detection of cerebro-spinal fever, as apart from acute poliomyelitis, tuberculous meningitis, influenza, typhoid, and rheumatic fevers had undoubtedly often arisen, but anthrax as a further difficulty in diagnosis had not previously been observed, and these notes were a valuable contribution to clinical medicine. His knowledge of small-pox and vaccination questions was profound, and in recent years the present system of control over small-pox in England was directed by him and by the medical officers in his section at the Ministry of Health. This, like all his other work, he undertook with untiring industry, with a high sense of duty, and with pride in his department. Reece's position as an epidemiologist and sanitarian was recognised by his election and re-election to preside over the Epidemiological Section of the Royal Society of Medicine; he was vice-president of the Public Health Section of the British Medical Association at the important Glasgow meeting in 1922, and had examined in State Medicine at his old University. He received the C.B. (Mil.) for his services during the war.

Surgeon-Colonel Reece's sudden death will be felt by a large circle of personal, official, and professional friends, by whom he was both admired and respected for his attainments and social qualities.

HUGH WALSHAM, M.D. CAMB., F.R.C.P. LOND.

Dr. Hugh Walsham, consulting radiologist to St. Bartholomew's Hospital, who died in London on April 13th, was a pioneer worker in medical radiology. Born in 1856, the second son of William Walker Walsham, of Wisbech, Cambridgeshire—his elder brother being the surgeon, Mr. W. J. Walsham, who died in 1903—Hugh began his education at King's College, London, proceeding to Caius College, Cambridge, where he graduated in medicine and surgery in 1887. His medical student days were spent at St. Bartholomew's Hospital. In the City of London Hospital for Diseases of the Chest he obtained the post of pathologist in 1894, and two years later he was appointed physician to the out-patient department of the hospital. The same year he was also appointed assistant medical officer to the electrical department of St. Bartholomew's Hospital. Profiting by his experience at these two hospitals, he was one of the first to realise the uses to which X rays might be put in investigation of diseases of the chest. By examining patients clinically and radiologically and by making X ray pictures of the cadaver in cases which came to autopsy he was able to correlate clinical and radiological findings. The book which he wrote, under a joint authorship with Dr. Harrison Orton ("The Röntgen Rays in the Diagnosis of Diseases of the Chest," published in 1906), was the first on the subject to appear, and may be regarded as the original classic. His essay on the Channels of Infection in Pulmonary Tuberculosis had gained the Weber Parkes Prize three years earlier.

Walsham was chief assistant in the electrical department of St. Bartholomew's Hospital when the late Dr. Lewis Jones was medical officer in charge. He conducted all the radiological work of the department while Lewis Jones devoted his time to the study and practice of electro-therapeutic work. In 1912, the year after the retirement of Lewis Jones, radiology was made the work of a new department and separated from the original electrical department, and Walsham was elected medical officer in charge and lecturer on radiology. "Before he retired from active work at the hospital," one of his colleagues writes, "Walsham was a familiar figure in the X ray room. Always bright and cheery, he was ever ready to assist those in need of help in the interpretation of radiograms. Although his work became more arduous year by year—two rooms only were allotted for the X ray work of the entire hospital—he would always spare time to those who sought his help. During the last months in which he was in charge of the X ray department he was frequently absent on account of ill-health, which eventually compelled him to retire. During the latter years of his life

Walsham kept aloof from medical meetings, and it is probable that the majority of the younger radiologists never even saw him."

On his retirement from the department Dr. Walsham was appointed consulting radiologist to St. Bartholomew's Hospital. Relieved from routine hospital duties, he continued private work until the illness which terminated his life. Like other pioneer workers in radiology, Dr. Walsham was the victim of X ray burns and had lost several of his fingers. His own experience led him to hold the view strongly that medical officers and nurses should only be attached to X ray departments for limited periods.

RICHARD HINGSTON FOX, M.R.C.S. ENG., M.D. BRUX., F.R.C.P. LOND.

Dr. Hingston Fox, whose death took place at Jordans Village, Beaconsfield, after a short illness on April 20th, came of Quaker medical stock, being descended from a line of doctors practising in the West Country. Born at Stoke Newington in 1853, he was the third of six surviving sons of Joseph John Fox, surgeon, all of whom followed the family tradition and entered the medical profession. From an early age Fox Tertius became a companion and helper to his father. His medical course was taken at the London Hospital, where he won scholarships in scientific subjects and whence he qualified M.R.C.S. and L.S.A. in 1874. Ten years later he took the M.D. Brux. and the M.R.C.P. Lond. His Fellowship was conferred upon him the year before his death.

After qualification Dr. Hingston Fox was for a number of years in general practice at Finsbury Park, at the same time steadily acquiring a city connexion in Finsbury-square. Like some other physicians who have not been closely attached to hospitals he made a study of life assurance, and more than 40 years ago was appointed medical officer in London to the Friends' Provident Institution, an appointment which he held to the end of his life. His statistical bent and philosophic outlook fitted him well for this class of work, and he was one of the first to take a broad view of adolescent albuminuria. At the Assurance Medical Society, of which he was one of the original members, his contributions were frequent and welcome; he was for many years its foreign correspondent and was elected to the presidential chair. At the Hunterian Society he held in succession all the chief offices, and his oration on the life of William Hunter was published later in book form. At the time of his death he was just completing the centenary history of the Society. Medical history always occupied much of his time and thoughts. In 1919 appeared "Dr. John Fothergill and his Friends" (Macmillan), in which the facts and references were compiled with such care as to make the book an intimate picture of medical and social life in the eighteenth century. In his own words, this work was intended as a reminder "of what our fathers were thinking and doing in times of strain and battle and loss, albeit on a lesser scale than ours," and he hoped that it might help some to meet the age-long questions that beset the lot of humanity.

In 1902 Dr. Fox gave up general practice and moved to Gordon-square. A few years later his health, never very robust, led to the surrender of his city practice, and he took rooms in the Harley-street district, where he enjoyed a considerable general consulting practice, living in succession at Hampstead, Golders Green, and Jordans Village. On the transfer of the Friends' Provident Institution to London he became its chief medical officer. He was also medical examiner for the U.K. Provident Institution, hon. physician to St. Luke's Provident Dispensary, and, during the war, assistant physician to Mount Vernon Hospital for Consumption.

To his acquaintances Dr. Fox appeared cautious, retired, unassuming, deliberate of speech, and wise in judgment; his friends knew that behind his manner of reserve lay warm feelings and a quick insight. Outside his profession his personal interests were catholic. His knowledge of botany, geology, and ornithology was unusually complete. Bible study was only second with him to medical study; his shelves were full of Latin, Greek, Hebrew, and Persian volumes, and he welcomed the higher criticism as an aid to reverent knowledge. He was no mere acquirer of facts, but sought to integrate and re-interpret them, writing his own translations of Hebrew and Greek texts. Never idle for a moment, his poor health seemed to limit but little his mental output. In his early manhood he was threatened with phthisis, but his health was then restored by voyaging to the Antipodes as ship's surgeon. Later in life he suffered from disabling attacks of Ménière's disease, but at these times continued to read and write on his couch. His death was due to an acute attack of intestinal obstruction.

Dr. Fox married in 1879 Elizabeth, daughter of the late Charles Tylor, and had seven children, all of whom survive him. His only son, Dr. J. Tylor Fox, is medical superintendent of the Lingfield Epileptic Colony.

ALBERT EDWARD MORISON, M.B., C.M. EDIN., F.R.C.S. EDIN., M.R.C.S. ENG.

Mr. A. E. Morison, hon. surgeon to the Sunderland Royal Infirmary, died suddenly at his own house, St. George's-square, Sunderland, on April 9th, at the conclusion of his consulting hour. He was 61 years of age. Mr. Morison was educated at King William's College, Isle of Man, and he graduated in medicine and surgery at the University of Edinburgh in 1884, taking his M.R.C.S. Eng. in 1886 and F.R.C.S. Edin. in 1889. He joined his brother, Dr. James Rutherford Morison (afterwards professor of surgery in Durham University), in partnership at Hartlepool in 1884 and took over the practice when his brother moved to Newcastle. About 16 years ago Mr. Morison went to commence consulting practice in Sunderland and later to live in that town, at the same time maintaining the closest connexion with the Hartlepools. During the whole of his life he was actively associated with Hartlepool Hospital, and at the time of his death was the senior and an active member of its staff. He was following most keenly the schemes for hospital development at present engaging the attention of the management of that institution. On his coming to Sunderland he became associated with the Sunderland Royal Infirmary and Children's Hospital. He was appointed honorary assistant surgeon in 1909, and honorary surgeon five years later. He retired in accordance with the age rule and was appointed honorary consulting surgeon in 1922. He was chairman of the nursing committee 1920–22, and took the keenest interest in the nursing question and did much to raise the standard of efficiency. During his association with the Royal Infirmary he had a great deal to do with the organisation of workmen's contributions.

Mr. Morison took part in the Boer War in South Africa, and during the late war, with the rank of major in the Royal Army Medical Corps, he served overseas for certain periods. He was especially identified with the Northumberland War Hospital, the Sunderland War Hospital, and the Hamerton House V.A.D. Hospital in Sunderland. A feature of his work being his skill in bone surgery, he was appointed surgeon specialist in head injuries to the Northern Command. After the war he became surgeon to the Sunderland Pensions Hospital. He was always keenly interested in medical politics and presided at different times over the Northumberland and Durham Medical Society and the North of England branch of the British Medical Association.

About two years ago Mr. Morison's health gave rise to anxiety and he took a long holiday; this, characteristically, he spent in visiting America, where he studied the hospital work of that country, giving valuable communications on the subject when he returned. His professional life was a very full one. He was a surgeon of great skill and natural genius, but the outstanding feature of his life was his work

for the youth of Hartlepool—this town was the first (in England) to undertake a Boys' Brigade, and Mr. Morison threw himself heart and soul into the work from the beginning. Dr. "Bertie," as he was affectionately called, was Captain, 1st Hartlepool Company Boys' Brigade for many years. He also initiated and was president of the Hartlepool Old Boys' Institute, which dealt with those boys who had passed through the Brigade and had reached the age limit.

A funeral service was held in Christ Church, Sunderland, on Saturday, April 12th, when there was a large attendance, many of the doctors of Sunderland being present and also representatives of many local activities. After the service the body was conveyed by motor to Hartlepool, where another service was held at St. Hilda's Church. The scene in Hartlepool was most remarkable and impressive, practically the whole town attending the funeral and paying a last tribute to one who had been the devoted friend of the boyhood and youth of Hartlepool for 37 years.

In 1896 Mr. Morison married Miss Harriet Appleby, eldest daughter of the late Mr. Thomas Appleby, J.P. He leaves a widow, a son, and two daughters.

Medical News.

UNIVERSITY OF LONDON.—An advanced lecture in ophthalmology on Accommodation will be given at the Charing Cross Hospital Medical School, Chandos-street, W.C. 2, by Dr. J. Van Der Hoeve, professor of ophthalmology in the University of Leiden, at 5 P.M., on Friday, May 9th. The chair will be taken by Mr. E. Treacher Collins. The lecture will be delivered in English and illustrated by lantern slides. Admission is free.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The Oliver-Sharpey lectures will be delivered by Prof. A. V. Hill on Tuesday, April 29th, and Thursday, May 1st, at 5 o'clock. The subjects will be: (1) The Recovery Process in Isolated Muscle, and (2) the Recovery Process in Man. On Monday, May 5th, at 5 o'clock, Dr. Karl F. Wenckebach, professor of medical pathology and therapeutics, and director of the First Medical Clinic, Vienna, will deliver a lecture on Angina Pectoris and the Possibilities of its Surgical Relief.

An extraordinary Comitia of the Royal College of Physicians of London was held on Monday, April 14th, at 5 P.M., the President, Sir Humphry Rolleston, Bart., being in the chair. The President delivered the annual address and pointed out that there were now 371 Fellows, compared with 87 a hundred years ago. The roll of the College now showed 636 Members and 14,902 licentiates. He referred to the death of the late Bedell, Mr. William Fleming, who had served the College for more than 50 years, 31 years as Bedell. He read obituary notices of the 12 Fellows deceased during the past year—namely, Dr. A. C. Latham, Sir James Reid, Dr. G. E. Rennie, Dr. P. W. Latham, Dr. P. W. Saunders, Prof. D. W. Finlay, Dr. Thomas Henry Green, Dr. Lauriston E. Shaw, Dr. Thomas W. Thursfield, Dr. Donald W. C. Hood, Dr. W. A. Wills, and Dr. Alexander Haig. Sir Humphry Rolleston was then re-elected President by 67 votes out of 69. Reports were received from the Committee of Management as follows:—

The Committee of Management recommend that Clause 3, Section II., of the regulations relating to the pre-medical examination which is as follows:—

(3) Candidates who produce satisfactory evidence that they have passed an examination in chemistry and physics or in chemistry or physics which exempts them from further examination in one or both subjects for the Degree in Medicine of any University in the British Empire, or of a Foreign University recognised by the Examining Board in England, will be exempted from the subject or subjects in which they have passed.

be revised so as to read:—

(3) Candidates will be exempted from the pre-medical examination who produce satisfactory evidence: (*a*) of having been registered as medical students by the General Medical Council: or (*b*) of having passed a preliminary examination in general education recognised by the Examining Board in England, and a pre-medical examination in chemistry and physics conducted by any of the qualifying bodies whose degrees or diplomas are registrable on the Medical Register; or (*c*) of having passed an examination in chemistry and physics for the Degree in Medicine or Science of any University in the British Empire or of any Foreign University recognised by the Examining Board in England.

A report was received from Dr. R. A. Young, the visitor appointed to inspect the examinations of the Egyptian Medical School and Hospital, Cairo, and the present conditions of teaching in the Medical School and Hospital, and certain recommendations for transmission to the Minister of Education of the Egyptian Government were adopted.

The Committee of Management report that they are satisfied that the conditions laid down by the Royal Colleges for the recognition of the Welsh National School of Medicine, Cardiff, have now been fulfilled, and they recommend that the Welsh National School of Medicine, with the Cardiff Royal Infirmary, be included in the permanent list of institutions recognised by the Conjoint Board.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—On April 28th Mr. V. E. Negus will lecture on New Points in the Mechanism of the Larynx; on April 30th Prof. W. E. Gallie will lecture on the Transplantation of the Fibrous Tissues in the Repair of Anatomical Defects; and on May 2nd Mr. H. Ernest Griffiths will lecture on Further Relationships of Diseases of the Gall-bladder to the Secretory Functions of the Stomach and Pancreas. All these lectures will be held at 5 P.M. at the College.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—The following candidates have passed the Final Dental Examination and have been granted the diploma L.D.S. R.C.S. Edin.:—

Archibald Matthew, Charles F. Mummery, John A. Watt, John Brown, Robert S. Matthew, Henry N. McKenzie, John C. Shiach, Gavin J. Bell, Harry B. Kyle, Cameron F. Murdoch, David D. Radford, James Hughes, John Murphy, James B. Kerr, John S. MacHardy, John Campbell, Robert Bell, Frederick A. Hunter, George M. Brigg, Agnes M. E. Wilson, Thomas Jamieson, Stuart J. Beaton, Orry S. Crowthers, George R. Moffoot, Edward N. Jamieson, Francis Mackenzie, Lesslie Macduff, and James Brydone.

MIDDLESEX HOSPITAL MEDICAL SOCIETY.—The 150th anniversary special meeting of the society will be held at the Middlesex Hospital on Thursday, May 22nd, at 8.15 P.M., when Sir James Kingston Fowler will deliver an address entitled Links with the Past. After the address there will be an exhibition of objects of historical interest to the Middlesex Hospital, and pathological and bacteriological exhibitions.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—A number of post-graduate courses have been arranged for April–May, and copies of the syllabus can be obtained from the Secretary, 1, Wimpole-street, W.1. Commencing on Monday, April 28th, is a two weeks' intensive course at the Hampstead General Hospital, comprising clinical daily work in medicine and surgery with a formal lecture or lecture-demonstration every afternoon. In association with this hospital demonstrations, &c., will also be given at the Paddington Green Children's Hospital and the North-Western Fever Hospital. From April 28th to May 10th will be held a short course in dermatology at the Hospital for Diseases of the Skin, Blackfriars, including instruction each afternoon from 2.30, and a venereal clinic twice a week from 5.30 P.M. At the Maudsley Hospital, Denmark Hill, a month's course in Psychological Medicine will be held from May 5th to 30th. The course will consist of lecture-demonstrations on various aspects of Mental Diseases. The various facilities of clinical instruction at the hospital will be open to those attending the course. As already mentioned, a comprehensive course in Venereal Diseases will be held at the London Lock Hospitals (Dean-street and Harrow-road) from May 5th to 31st. The course will include clinical work every day in the wards and out-patients' department, and a lecture on some branch of the subject will be given each day at 91, Dean-street, W. 1. At the Central London Ophthalmic Hospital from May 5th to 31st a series of lecture-demonstrations on subjects of interest to the specialist as well as to the general practitioner will be given in Ophthalmology, and, if desired, an Operative Surgery class can be arranged for. A fortnight's course in Proctology will be held at St. Mark's Hospital for Diseases of the Rectum from May 12th to 24th, consisting of operations, demonstrations, and lectures by members of the staff. Also beginning on May 12th and continuing until the 24th will be given a course on Infants' Diseases at the Infants Hospital. The comprehensive syllabus covers clinical demonstrations, "round table" consultations, lectures, &c. An intensive course in Laryngology, Rhinology, and Otology will be held at the Central London Throat, Nose, and Ear Hospital from May 12th to 30th. A programme comprising clinical demonstrations, lectures, &c. has been arranged for from 9.30 A.M. to 5 P.M., and for those desiring it an Operative Surgery class will be available. The special intensive course to be given from May 19th to 31st at the North-East London Post-Graduate College (Prince of Wales's General Hospital), Tottenham, will include demonstrations of clinical methods and cases, &c. The 4.30 P.M. formal lectures will be free to general practitioners.

INDIAN MEDICAL SERVICE DINNER FUND.—The annual dinner of the Indian Medical Service will be held at the Trocadero on Wednesday, June 18th, Colonel J. J. Pratt in the chair. Tickets and all particulars may be obtained from the honorary secretaries, 63, Addison-road, Kensington, W. 14.

Dr. H. B. Brackenbury has been awarded the gold medal of the British Medical Association "for his arduous and distinguished services to the Association and the medical profession."

EUGENICS EDUCATION SOCIETY.—A lecture on State Certificate of Marriage will be delivered by Dr. R. A. Gibbons at the rooms of the Royal Society, Burlington House, Piccadilly, on Friday, May 2nd, at 8.30 P.M. Major Leonard Darwin will be in the chair.

FOUR lectures on the Brain and the Mind will be delivered by Sir Robert Armstrong-Jones at Gresham College, Basinghall-street, London, E.C., on Tuesday, April 29th, April 30th, May 1st, and May 2nd, at 6 P.M. Admission is free.

MANCHESTER ROYAL INFIRMARY.—Sir John Bland-Sutton, President of the Royal College of Surgeons of England, will give the Lloyd Roberts lecture at the Manchester Royal Infirmary on Oct. 7th. His subject will be Attic Salt for Gall-stones.

LEICESTER ROYAL INFIRMARY.—At the annual meeting of the infirmary on April 16th Mr. C. J. Bond, vice-president of the infirmary, who presided, spoke of the necessity of establishing coöperation between the voluntary hospital, the municipal infectious diseases hospital, the mental hospital, the Poor-law infirmary, the sanatorium, the tuberculosis dispensary, and the school clinic in every area. It would be also necessary, he said, to spread the work done by the members of the present honorary staffs of voluntary hospitals over a larger section of the medical profession, and sufficiently remunerate the work performed and the services rendered so as to do away with that unhealthy competition between public hospital work and private practice, which was now exercising an injurious effect not only on the medical profession itself, but on the interests of the hospitals and the public.

A USEFUL NURSING DIRECTORY OF LONDON.—Hospital almoners and others who desire to secure home nursing for cases of sickness in the poorer districts of London will be glad to know that the directory, compiled and issued in 1917 by the Central Council for District Nursing, has now been reissued with a supplement which brings up to date the information as to the appropriate nursing association for every street in London. Some 30,000 streets and places lying within the County of London are included in the directory, which has also an index giving the names and addresses of all the recognised district nursing associations and a reference number indicating the association to which application should be made for nursing help in any particular street. Telephone numbers are also given. The directory has already proved a most useful aid to social workers and hospital officials, as well as to doctors. The price has been fixed at 2*s.* 6*d.* (or 2*s.* 9*d.* post free), which is half the actual cost of production, in order to make the information more readily accessible. Copies can be obtained from the Secretary-Visitor, Central Council for District Nursing in London, 20, Cockspur-street, London, S.W. 1.

ST. MARY'S HOSPITAL: INSTITUTE OF PATHOLOGY AND RESEARCH.—A course of lectures on Pathological Research in its Relation to Medicine has been arranged for the summer session. These lectures will be given in the lecture room of the Bacteriological Department of the Institute on Thursday afternoons at 5 P.M. On April 24th Sir Almroth E. Wright, F.R.S., gave the first lecture on the Anti-Bacterial Functions of the Leucocytes. On May 1st Sir Thomas Lewis, F.R.S., will lecture on Reactions of the Skin to Injury. On May 8th Prof. A. V. Hill, F.R.S., will discuss the Function of Hæmoglobin in the Body, and on May 15th Dr. Andrew Balfour will deal with Some Medical and Sanitary Lessons. On May 22nd Dr. Major Greenwood will give a lecture entitled Is the Statistical Method of any Value in Medical Research? On May 29th Dr. Gordon M. Holmes will lecture on the Ductless Glands and Personality. On June 5th Mr. Wilfred Trotter will speak on the Sensibility of the Skin in Relation to Neurological Theory, and on June 12th Prof. William Bateson, F.R.S., will give the final lecture on the Determination of Sex. These lectures are open to all members of the medical profession and to all students in medical schools without fee.

DONATIONS AND BEQUESTS.—Under the will of the late Alderman H. E. Lawrence, of Lee, Kent, the St. John's Hospital, Lewisham, will receive £1500, and the Blackheath and Charlton Hospital and the Miller Hospital £100 each.—The Chelsea Hospital for Women has received £100 from the Goldsmiths' Company for the Nurses' Home.—An anonymous bequest of £10,000 has been made to the Royal Society for the prosecution of original research in medicine for the prevention of disease and the relief of suffering, with special attention to tropical diseases in British possessions, cancer, and tuberculosis.—Under the will of the late Colonel J. S. Tait, of Edinburgh, the Kilmarnock Infirmary will receive £500, and the Glasgow Deaf and Dumb Institution and the Glasgow Asylum for the Blind £100 each.

QUEEN'S UNIVERSITY (BELFAST) CLUB, LONDON.—The first dinner of this club was held in the Connaught Rooms, London, on April 10th. Colonel Thomas Sinclair occupied the chair. The company, composed of Belfast graduates and their guests, numbered close on 150. Many members from Liverpool, Manchester, Portsmouth, Bath, and the Midlands were present. Enthusiastic speeches, in tribute to the Alma Mater and in support of the club, made by the chairman, Lord MacDonnell, Sir Lynden Macassey, Prof. J. A. Lindsay, and Mr. R. W. Livingstone, Vice-Chancellor of the University, were much appreciated. There were also present Sir David Semple, Sir W. Maxwell, Colonel R. McCarrison, Rev. D. Wilson, Mr. J. R. Fisher, K.C., Dr. James Chambers, and Dr. W. Douglas. A musical programme added greatly to the enjoyment of the evening. Altogether the reunion was a most happy and successful one. To mark his year of office, the President kindly presented a Gold Challenge Cup to the club. Members wishing to compete for this trophy should at once communicate with Mr. A. McKinstry, 4, Central Buildings, Westminster, London, S.W.

ROCKEFELLER MEDICAL FELLOWSHIPS.—The Rockefeller medical fellowships for the academic year 1924–25 will be awarded by the Medical Research Council in June, and applications should be lodged with the Council not later than May 31st. These fellowships are provided from a fund with which the Medical Research Council have been entrusted by the Rockefeller Foundation. Fellowships are awarded by the Council to graduates who have had some training in research work in the primary sciences of medicine or in clinical medicine or surgery and are likely to profit by a period of work at a university or other chosen centre in the United States before taking up positions for higher teaching or research in the British Isles. A fellowship will have the value of not less than £350 a year for an unmarried fellow, with extra allowance for a married fellow, payable monthly in advance. Travelling expenses and some other allowances will be made in addition. Full particulars and forms of application are obtainable from the Secretary, Medical Research Council, 15, York Buildings, Adelphi, London, W.C. 2.

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Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Criminal Responsibility Bill.

THE text has been issued of Lord Darling's Bill to amend the law relating to the criminal responsibility of accused persons suffering from mental disease. Clause 1 provides that (1) a person is not responsible to the law for an act of omission charged against him as a crime, if at the time of doing the act or of making the omission he is proved to be suffering from such a state of mental disease or disorder as deprives him (*a*) of capacity at the time to know, understand, and appreciate the physical nature and quality of the act done or omission made; or (*b*) of capacity to know, understand, and appreciate at the time that the act done or omission made was wrong; or (*c*) if at the time the act was done or omission made he was suffering from such a state of mental disease as therefrom to be wholly incapable of resisting an impulse to do the act or make the omission.

(2) A person who is suffering from mental disease at the time of doing the act or of making the omission charged against him as a crime and by reason of such mental disease is affected by delusions on some specific matter or matters, but whose mental condition does not render him irresponsible to the law within the meaning of Subsection (1) of this Section, is criminally responsible for such act done or omission made to the same extent, and as if the facts with respect to which such delusions exist were real.

HOUSE OF COMMONS.

TUESDAY, APRIL 15TH.

Conditions of Service in Mental Hospitals.

Mr. RAYNES asked the Minister of Health the hours and conditions of service of staffs employed in mental hospitals; whether they varied in different institutions, and, if so, for what reason; and, seeing that a 60-hour week was too long for people to be engaged in this class of service, would he take steps to secure a uniform basis of service and remuneration throughout Great Britain.—Mr. GREENWOOD (Parliamentary Secretary to the Ministry of Health) replied: The hours and conditions of service vary in public mental hospitals because they are determined by the visiting committees of the various local authorities by whom the hospitals are provided. Moreover, the conditions of the work vary to some extent in different institutions.

The Maternity Convention.

Sir ARTHUR SHIRLEY BENN asked the Minister of Labour what States had ratified the Maternity Convention drafted by the International Labour Conference at Washington in 1919.—Mr. T. S. SHAW replied: Bulgaria, Greece, Roumania, and Spain have formally deposited their ratifications of this Convention with the Secretary-General of the League of Nations, and I understand that its ratification has been recommended or authorised in certain other countries.

Fees of Post Office Medical Officers.

Sir EDWARD ILIFFE asked the Postmaster-General whether, in view of the fact that he had authorised postmasters to reduce the capitation fee paid to medical officers of the department to 11*s.*, that this reduced fee was fixed without consultation with the medical officers concerned, and that he authorised postmasters to advise medical officers at the end of March of this reduction, which was to be made retrospective to Jan. 1st, he would withdraw these reductions, which were at variance with the contracts.—Mr. VERNON HARTSHORN replied: It was part of the agreement reached with the British Medical Association in March, 1922, when the fee of 11*s.* 6*d.* was fixed, that the capitation fee for Post Office medical officers should be subject to review at the end of 1923, and this fact was made known to all medical officers at the time. The reduction from 11*s.* 6*d.* to 11*s.* was made in view of the fall in the cost of living since March, 1922, and is similar to that made from the same date and for similar reasons in the fee of doctors on the Health Insurance panels. The British Medical Association was informed of the proposed reduction as soon as it had been decided upon.

WEDNESDAY, APRIL 16TH.

Assessment of Invalided Naval Ratings.

Sir BERTRAM FALLE asked the Parliamentary Secretary to the Admiralty what course was open to an invalided naval rating whose invaliding disability was attributable to service and who was not satisfied with the degree of disability assessed by the Naval Medical Board.—Mr. AMMON replied: It is open to an invalided rating to appeal to the Board of Admiralty under whose directions the case would be reviewed in the light of any representations made on his behalf.

Sir BERTRAM FALLE asked the Parliamentary Secretary to the Admiralty whether it was the practice to make a reduction in the pensions of men invalided for non-attributable disabilities associated with specific disease; whether any scale of deduction existed; whether any disease other than venereal was included in the practice; and whether naval ratings generally were aware that such a practice existed, and under what legal sanction.—Mr. AMMON replied: The reply to the first part of the question is in the affirmative. The deduction made is considered on the merits of each case. A disease such as alcoholism would be included in the practice. The practice is sanctioned by the terms of Order in Council of Feb. 6th, 1922 (Statutory Rules and Orders, 1922, No. 132). These regulations have been published in Fleet Orders.

Notification of Births Regulations.

Lieut.-Colonel FREMANTLE asked the Minister of Health whether his predecessor in June of last year received a memorandum from the Central Midwives Board urging that the name of the person actually conducting the delivery of a child should be inserted in the form prescribed under the Notification of Births Act; and whether an alteration would be made in the form of notification of births accordingly.—Mr. WHEATLEY replied: The answer to the first part of the question is Yes. This suggestion will be considered in connexion with any proposed legislation amending the Notification of Births Acts or the Midwives Acts.

Maternal Mortality.

Lieut.-Colonel FREMANTLE asked the Minister of Health if he was aware that the maternal mortality-rate for England and Wales during the last 20 years has been maintained at or about 4 per 1000 births, but that in midwives' cases it was under 2 per 1000; and whether, in view of the dangers arising from unqualified persons attending women in childbirth he would introduce or support a Bill providing that no uncertified woman should attend women in childbirth except in an emergency or under the personal direction and in the presence of a registered medical practitioner.—Mr. WHEATLEY replied: As regards the first part of the question the facts are as stated in regard to the maternal mortality-rate for all cases, but I have no complete information as to midwives' cases. The suggestion in the second part of the question will receive consideration in connexion with any proposed legislation amending the Midwives Act.

League of Nations Opium Conference.

Mr. ORMSBY-GORE asked the Prime Minister whether the projected League of Nations Opium Conference had been convened for the purpose of giving effect to the principles submitted by the United States representatives on the Opium Advisory Committee last May; whether he was aware that those principles included the restriction of the use of opium and cocaine products to medical and scientific purposes, and the restriction of the production of raw opium to the quantity needed for such purposes alone; and whether the representative of His Majesty's Government on the preparatory committee for the Conferences would be instructed to give support to these proposals.—Mr. DAVIES (Under Secretary for the Home Office) replied: The purpose for which the Conference has been summoned is to consider the possibility of concluding an agreement or agreements for the limitation of the amounts of morphine, heroin, and cocaine to be manufactured, and the limitation of the amounts of raw opium and the coca leaf produced for export of the amounts required for such manufacture and other medicinal and scientific purposes, subject to an exception for those countries where opium-smoking is temporarily continued under Part II. of the Convention. The proposal that a Conference should be held with this object was put forward at the meeting of the Advisory Committee last May on behalf of the British Government, and the attempt to arrive at such agreements will receive the utmost support which the Government can give.

Diet in Casual Wards.

Mr. BRIANT asked the Minister of Health if he was satisfied that the diet allowed to inmates of casual wards was sufficient for the maintenance of health.—Mr. WHEATLEY replied: I am advised that the diet is sufficient for the purpose for which it is intended, but certain suggestions for making it more palatable are under consideration, and I hope for some improvement.

Government and the Spahlinger Treatment.

Mr. ALFRED T. DAVIES asked the Minister of Health whether he was aware that the New Zealand Government offered £50,000 to develop the Spahlinger treatment of

consumption on the condition that the Ministry offered a similar amount; whether the Ministry had adequately investigated the results of such treatment; and whether any action was to be taken.—Mr. WHEATLEY replied: The answer to the first part of the question is No. As regards the second part, I may say that all such inquiries have been made by my department as have been practicable in the absence of a supply of Mr. Spahlinger's preparations for scientific investigation. As regards the third part, I am anxious to arrange for a scientific investigation of this method of treatment in this country, and have personally given Mr. Spahlinger assurances to that effect.

Medical Diary.

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Monday, April 28th.

ODONTOLOGY: at 8 P.M.
Casual Communications:
Mr. J. H. Badcock: The Prevalence of Supernumerary and Supplemental Teeth among the Natives of India (with examples contributed by Mr. C. H. Badcock, of Madras).
Paper:
Mr. J. Howard Mummery: The Nerve Distribution to the Dentine.

Thursday, May 1st.

OBSTETRICS AND GYNÆCOLOGY: at 8 P.M.
Annual General Meeting:
Election of Officers and Council for Session 1924–25.
Short Communications:
Prof. Louise McIlroy and Miss D. L. Leverkus: Changes in the Polarity of the Fœtus during the Later Weeks of Pregnancy.
Dr. George Graham: (1) The Effect of Pregnancy in a Patient with a Renal Glycosuria; (2) Report of a Case of Pregnancy Complicating Diabetes Mellitus, treated with Insulin.
Dr. Cuthbert Lockyer (President): A Case of Spontaneous Rupture of the Uterus.
Dr. H. Russell Andrews: An Unusual Case of Kidney Tumour.
Paper:
Mr. Alexander Galletly: Presacral Tumours of Congenital Origin, with a case in which a Cyst, complicating Pregnancy, was removed by the Abdomino-perineal Route.

Friday, May 2nd.

LARYNGOLOGY: at 5 P.M. (Cases at 4 P.M.)
Annual General Meeting:
Election of Officers and Council for Session 1924–25.
Cases and Specimens:
Cases and Specimens will be shown by the following: Mr. Norman Patterson, Dr. Aldington Gibb, Mr. Wharry, Dr. Dan McKenzie, and others.

ANÆSTHETICS: at 8.30 P.M.
Annual General Meeting:
Election of Officers and Council for Session 1924–25.
Paper:
Dr. Z. Mennell: Recent Experiences in America.

Saturday, May 3rd.

OTOLOGY: at 10 A.M. (Cases at 9.15 A.M.)
Annual General Meeting:
Election of Officers and Council for Session 1924–25.
Paper:
Mr. F. B. Gillespie: Aural Surgery at a Fever Hospital.
Cases and Specimens:
Dr. P. Watson-Williams: Case of Labyrinthine Vertigo due to Sphenoidal and Ethmoidal Sinusitis.
Other cases will be shown.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.
MONDAY, April 28th, to SATURDAY, May 3rd.
Hampstead General Hospital, in conjunction with the North-Western Fever Hospital and Paddington Green Children's Hospital. Special Intensive Course.—Hospital for Diseases of the Skin, Blackfriars. Clinical instruction in the Out-patient Department every afternoon from 2.30 P.M. Tuesday and Friday, Venereal Clinic from 5.30 to 7 P.M.

ROYAL COLLEGE OF SURGEONS, Lincoln's Inn-fields, W.C.
MONDAY, April 28th, 5 P.M.—Mr. V. E. Negus: New Points in the Mechanism of the Larynx.
WEDNESDAY, 5 P.M.—Prof. W. E. Gallie: The Transplantation of the Fibrous Tissues in the Repair of Anatomical Defects.
FRIDAY, May 2nd.—5 P.M., Mr. H. Ernest Griffiths: Further Relationships of Diseases of the Gall-bladder to the Secretory Functions of the Stomach and Pancreas.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.
TUESDAY, April 29th.—5 P.M., Prof. A. V. Hill: The Recovery Process in the Isolated Muscle. First Oliver-Sharpey Lecture.
THURSDAY, May 1st.—5 P.M., The Recovery Process in Man. Second Oliver-Sharpey Lecture.

UNIVERSITY COLLEGE, Gower-street, W.C.
(University of London Advanced Lecture in Hygiene.)
FRIDAY, May 2nd.—5 P.M., Prof. Dr. C. Eijkman: Influence of Tropical Climate on Man. (To be given in English.)

WEST LONDON POST-GRADUATE COLLEGE, West London Hospital, Hammersmith, W.
MONDAY, April 28th.—2 P.M., Dr. Scott Pinchin: Medical Out-patients. 2 P.M., Mr. Simmonds: Surgical Out-patients. 2 P.M., Mr. Simson: Diseases of Women.
TUESDAY.—10 A.M., Dr. Drummond Robinson: Gynæcological Operations. 12 noon, Dr. Burrell: Chest Cases. 2.30 P.M., Mr. Tyrrell Gray: Surgical Wards.
WEDNESDAY.—10 A.M., Dr. Saunders: Medical Diseases of Children. 2 P.M., Dr. Owen: Medical Out-patients. 2 P.M., Dr. Pernet: Skin Dept.
THURSDAY.—10 A.M., Dr. Grainger Stewart: Neurological Dept. 2 P.M., Mr. Simmonds: Surgical Out-patients. 2 P.M., Mr. MacDonald: Genito-Urinary Dept.
FRIDAY.—11 A.M., Dr. McDougal: Electrical Dept. 2 P.M., Mr. Sinclair: Surgical Out-patients. 2 P.M., Mr. Banks-Davis: Throat, Nose, and Ear Dept.
SATURDAY.—9.30 A.M., Dr. Burnford: Bacterial Therapy. 10 A.M., Dr. Saunders: Medical Diseases of Children. 10 A.M., Mr. Banks-Davis: Operations on Throat, Nose, and Ear.
Daily, 10 A.M. to 6 P.M., Saturdays, 10 A.M. to 1 P.M., In-patients, Out-patients, Operations, Special Departments.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital. (At 4.30 P.M.)
MONDAY, April 28th.—Dr. A. J. Whiting: Auricular Fibrillation and Flutter.
TUESDAY.—Mr. C. H. Hayton: Œsophageal Growth, Treatment and Diagnosis.
WEDNESDAY.—Dr. J. Browning Alexander: The Significance of Pleural Effusions.
THURSDAY, May 1st.—Mr. H. W. Carson: Diagnosis of Cancer of the Colon.
FRIDAY.—Dr. C. E. Sundell: Dyspepsias of Childhood.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, W.
TUESDAY, April 29th, 5.15 P.M.—Prof. Joseph Barcroft: The Effect of Altitude on Man (Lecture I.).
SATURDAY, May 3rd, 3 P.M.—Dr. F. A. E. Crew: Heredity and Sex (Lecture I.).

THE ROYAL SANITARY INSTITUTE, 90, Buckingham Palace-road, S.W.
WEDNESDAY, April 30th, 5.30 P.M.—Dr. Charles Porter: The League of Nations Health Officers Interchange, in the United States.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.
THURSDAY, May 1st.—Mr. Rivett: Normal Labour.

UNIVERSITY OF LIVERPOOL POST-GRADUATE LECTURES. (At 3.30 P.M.)
MONDAY, April 28th.—(At the Children's Hospital.) Mr. W. A. Thompson: Pyloric Stenosis in Infants.
TUESDAY.—(At the Southern Hospital.) Mr. Douglas Crawford: Surgical Cases.
WEDNESDAY.—(At the Northern Hospital.) Mr. G. C. E. Simpson: Some Abdominal Cases.
THURSDAY, May 1st.—(At the Stanley Hospital.) Mr. J. T. Morrison: Swellings of the Knee-joint.

MANCHESTER ROYAL INFIRMARY POST-GRADUATE LECTURES.
TUESDAY, April 29th.—4.15 P.M., Dr. E. B. Leech: Some Notes on Sanatoria and the Treatment of Tuberculosis.

Appointments.

CLARK, C. A., L.D.S.R.C.S. Irel., has been appointed Honorary Consulting Radiologist to the Royal Dental Hospital.
COWBURN, A. D., M.R.C.S., L.R.C.P. Lond., D.P.H., Coroner for the Southern District of London.
LEAPINGWELL, A. E., L.R.C.P. Lond., M.R.C.S., M.O.H., Certifying Surgeon under the Factory and Workshop Acts for Winslow.
REID, W., M.B., Ch.B. Edin., Medical Superintendent, Burntwood Mental Hospital.
SMITH, NORMAN F., B.M., B.Ch., M.R.C.S., L.R.C.P., Registrar, Kitchener School of Medicine, Khartoum.
SMITH, R. ECCLES, F.R.C.S. Edin., Honorary Surgeon to the Corbett Hospital, Stourbridge.
WILSON, MARY, M.B., Ch.B. Edin., Resident Medical Officer, Dundee East Poorhouse and Hospital.

Vacancies.

For further information refer to the advertisement columns.

Battersea Borough Council.—Part-time Asst. M.O. for Maternity work. £1 11s. 6d. per session.
Birkenhead and Wirral Children's Hospital, Woodchurch-road.—Hon. Radiologist.
Birkenhead Borough Hospital.—Third H.S. £100.
Cardiff, University College of South Wales, &c.—Prof. of Path. and Bact. £1500.
Central London Throat, Nose, and Ear Hospital, Gray's Inn-road, W.C.—Reg. Out-Patients.
City of London Hospital for Dis. of Heart and Lungs, Victoria Park, E.—H.P. £125.
East Sussex County Mental Hospital, Hellingly.—Pathologist. £500.
Essex Administrative County.—Asst. County M.O.H. £700.
Exeter City Mental Hospital.—Asst. Med. Supt. £350.
Hemel Hempstead, West Herts Hospital.—Res. M.O. £200.
Home Office, Whitehall, S.W.—Woman Medical Inspector of Factories. £800.
Hospital for Consumption and Dis. of Chest, Brompton, S.W.—Asst. in Dept. of Pathology. £250.
Inverness Northern Infirmary.—Jun. Head Resident. £100.
Leeds General Infirmary.—Res. Ophth. O. £120. Also Ophth. and Aural H.S. £50.
London Lock Hospital, Dean-street and Harrow-road.—Surg. Reg.
London Temperance Hospital, Hampstead-road, N.W.—Med. Registrar. 40 guineas.
Loughborough and District General Hospital and Dispensary, 9, Leicester-road.—Res. H.S. £175.
Mid-Wales Counties Mental Hospital, Talgarth, Breconshire.—Asst. M.O. £350.
Newcastle-upon-Tyne Hospital for Sick Children.—Hon. Asst. S.
Pietermaritzburg, S. Africa, Grey's Hospital.—H.S. £400.
Queen's Hospital for Children, Hackney-road, E.—Asst. S. to Ear, Nose, and Throat Dept.
Royal Ear Hospital, Dean-street, Soho, W.—Hon. H.S.
St. Mary's Hospital for Women and Children, Plaistow, E.—Res. M.O. £175. Asst. R.M.O. £130.
Southampton Borough Isolation Hospital.—R.M.O. £360.
West End Hospital for Nervous Diseases, 73, Welbeck-street, W.—Cas. P. £200.
Whitehaven and West Cumberland Infirmary.—Res. H.S. £200.

The Chief Inspector of Factories, Home Office, London, S.W., announces the following vacant appointments: Burghead, Morayshire; and Lavenham, Suffolk.

Births, Marriages, and Deaths.

BIRTHS.

HANCOCK.—On Easter morning, at Bexley, Kent, to Vera Primrose, wife of Dr. Allen Coulter Hancock, *M.C.*—a daughter.
HARTIGAN.—On April 10th, at the Royal Hamadryad Seamen's Hospital, Cardiff, the wife of Dr. J. Hartigan, of a daughter.
MOORE.—On April 15th, at Ickleton, Great Chesterford, Essex, the wife of Dr. J. York Moore, of a daughter.
PAVEY-SMITH.—On April 15th, at 9, Victoria-avenue, Harrogate, the wife of A. B. Pavey-Smith, *M.C.*, F.R.C.S., of a daughter.
ROCHE LYNCH.—On April 12th, at Sussex-place, Slough, the wife of G. Roche Lynch, M.B., of a daughter.
ROE.—On April 14th, at Ardington-road, Abington Park, Northampton, the wife of Robert Bradley Roe, M.R.C.S., of a son.

MARRIAGES.

PARRY—WILLIAMS.—On April 12th, at St. Andrew's, Leytonstone, R. Hughes Parry, M.B., B.S., D.P.H., to E. Joan Williams, L.R.C.P., M.R.C.S., eldest daughter of Mr. and Mrs. Percy E. Williams, of Wanstead.

DEATHS.

BARRETT.—On the 19th inst., at Le Havre, France, aged 64 years, Dr. William H. Barrett, of 29, Park-crescent, Southport.
DALTON.—On April 17th, very suddenly, Thomas Dalton, M.D., of Llandudno.
FOX.—On April 20th, at Jordans, Beaconsfield, R. Hingston Fox, M.D., F.R.C.P., aged 71.
OLIVER.—On April 14th, at Manningham-lane, Bradford, George Henry Oliver, M.R.C.S. Eng., D.O. Oxon., Senior Consulting Surgeon to the Bradford Royal Eye and Ear Hospital, aged 63.
REECE.—On Easter Day, at Birchington, suddenly, Richard James Reece, C.B., M.D., Senior Medical Officer Ministry of Health, late Surgeon-Colonel H.A.C., aged 61.
WALSHAM.—On April 13th, Palm Sunday, at Harley-street, Hugh Walsham, M.D., F.R.C.P.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Comments, and Abstracts.

THE LIFE AND DOCTRINE OF SIR EDWIN CHADWICK.

BY SIR WILLIAM JOB COLLINS, K.C.V.O., M.D., M.S., B.Sc. LOND., F.R.C.S. ENG.,
CHAIRMAN OF THE CHADWICK TRUST; PRESIDENT OF THE SANITARY INSPECTORS' ASSOCIATION.

(*Concluded from p. 834.*)

PART II.

Chadwick's Later Work.

DURING the 36 years which remained to Chadwick after the closure of his official life, he pursued, with little evidence of resentment and with the same ardour, the cause of sanitary and social reform. Pamphlets, presidential and other addresses, reviews and critiques came from his pen at frequent intervals, and these with his voluminous official reports cover a period of 60 years of continuous labour. These *disjecta membra* of what would compose a considerable library were collated and condensed by Richardson. Some 26 works of Chadwick's, including some cross references, appear in the British Museum catalogue. A yet more representative collection contained in some dozen volumes of pamphlets, essays, &c., are to be found in the library of University College. One can, in the time at my disposal, only touch lightly on these varied activities.

Chadwick coöperated with Miss Nightingale during and after the Crimean War in the reform, or rather the inauguration of military hygiene. He opposed taxes on knowledge and condemned the "fiscal rapacity" that restricted journalism and checked advertisement. He was a zealous advocate of competitive examinations for admission to the public service and the stout opponent of political patronage. One recalls the story of Melbourne when one of his ministers confessed to him that having to choose between two candidates for a valuable office, one a stranger and the other a relative, he proposed, *ceteris paribus*, to give it to his relative. "So should I," said Melbourne, "and damn *ceteris paribus*." He discussed the psychological and physiological limits of mental labour, the feeding of school-children, the physical and moral advantages of drill in school, and supported the volunteer movement. He was a member of the first London School Board, advocated baths in schools and adequate playgrounds. He emphasised the danger of spread of infectious diseases by schools and looked to physical training and sanitary surroundings "to banish epidemic and eruptive diseases." He was strongly opposed to corporal punishment, he condemned payment by results and the rigidity imposed by the code. He concerned himself with the construction of schools, suggested warming through hollow-tiled floors, advised double-paned windows, and left-lighting.

In a supplementary report in 1843 he had exposed the perils of interment in city churchyards, of delayed burial through lack of mortuaries to which the dead might be removed, pending interment, out of crowded homes, and endorsed Sir Christopher Wren's advocacy of cemeteries in the suburbs of towns. At Mr. Gladstone's suggestion he investigated and reported on the extension of cheap postal telegraphy.

Many of his addresses and essays were in English, which he wrote with ease; in 1864 he met Napoleon III. in Paris, who asked him what he thought of his improvements and he replied: "Sir, Augustus found Rome brick and left it marble; if your Majesty having found Paris stinking will leave it sweet you will more than rival the first Emperor of Rome." Common lodging-houses, as he found them, he described as schools for juvenile crime and vice and fertile agencies in propagating infectious disease, and recommended that they should be both licensed and inspected. From 1883-1889 he was President of the Sanitary Inspectors' Association, and his addresses were rightly regarded as among the chief sanitary events of the year.

Such varied instances as I have cited by no means exhaust the catalogue of his activities; as Richardson remarks, "his universality is unique." "He is found dealing with building construction as if he were an architect, with engineering as if he were an engineer. In treating of diseases he might often be taken for a physician, in matters of administration a politician, while he is always in his right place as a statistician." His wide knowledge of Government departments and their ways had led him to distrust the methods by which legislation is initiated and conducted, and in 1859 he read a paper on the subject before the Society for the amendment of the law. He

condemned what he called the close Cabinet method of preparing Bills as well as Select Committee procedure, preferring open and deliberate inquiry by Royal Commissioners specially appointed for their competence and experience, or by a Committee of the Privy Council assisted as regards local inquiries by Sub-Commissioners. J. S. Mill and Sir James Stephen were supporters of these proposals. A little coterie of "friends in council" with Chadwick as the centre and Mill, Rowland Hill, Lyon Playfair, and Neil Arnott as members, met at each others' houses and were very active in the 'forties and 'fifties of last century in incubating plans for administrative reform and social betterment.

Parliamentary Candidature.

Richardson and the National Dictionary of Biography state that in 1867 Chadwick unsuccessfully contested London University for Parliament. He did indeed write an address to the electors, which was backed by J. S. Mill, but he did not go to the poll. I find from the Parliamentary Poll Book that Mr. Robert Lowe was returned unopposed in 1867 as the first member for the seat, which he retained for 12 years, and which Disraeli facetiously asserted he had created and predestinated for that erratic and unbeloved politician. Chadwick was, however, induced to come forward in 1868 for Kilmarnock Burghs and was beaten by the Hon. E. P. Bouverie by 2892 to 1148. The statement which he afterwards published in reference to his defeat betrayed his naïve and chagrined disillusion at the fickleness of electors, the delusiveness of public meetings, and the deceitfulness of political promises. He had indeed experienced a previous Parliamentary reverse at Evesham in 1859.

He also at one time coquetted with the electors of Southampton and of Middlesex, and to the latter issued an address intimating his willingness to come forward if assured of adequate backing, while disclaiming any intention of canvassing, attending meetings, or embarkiug on any expenditure beyond the official fees. The address dealt at length with metropolitan drainage, burial boards, extravagance and corruption in local administration, and advocated physical, educational, and moral improvement of the labouring classes and the "cutting up of political patronage by the roots." Such matter of fact doctrine and high ideals were, however, not calculated to split the ears of political groundlings. In short, you could not make a political hack or a safe whip's man out of Edwin Chadwick. He was ill-adapted for the platform, especially the political platform—in truth, he was no orator. Even the friendly Richardson wrote: "When he first gets up to speak without book he looks an orator; but a few moments dispel the illusion; he bends forward, he speaks in a low voice, he disputes some points logically, then falls into confusion, then recovers his strain, goes back, and, in fact, if he speaks long, as he is wont, he wearies the listener, and takes sometimes the points out of his own arguments."

His Political Philosophy.

In 1885, five years before his death, Chadwick sought to summarise and generalise the principles which had inspired his life's work and he published a collection of papers entitled "On the Evils of Disunity in Central and Local Administration" in which he took for his text the maxim of Bentham, "always to do the same thing in the same way, choosing the best, and always to call the same thing by the same name." These papers betray that diffuseness, repetition, and unattractiveness of style which his kindly biographer has deplored. He contended for larger areas than the parish for local administration, a responsible central supervisory authority, detailed administrative work to be discharged by competent salaried officers. He indicated how his principles which had inspired the Poor-law Amendment Act (1834) and his reports on the sanitary condition of the labouring population of Great Britain should be applied in the case of water-supply, smoke abatement, fire prevention and extinction, abattoirs, disposal of the dead, gas-supply, slum clearances, police administration, &c., and adumbrated the appointment and duties of a "Minister of Education" and a "Minister of Health." In the matter of the government of London he claimed that "the attainment of complete unity of administration would open up prospects of grievously needed relief"; while recognising that Sir Benjamin Hall's Act of 1855, which set up the ill-fated Metropolitan Board of Works, was a step in the direction of unification, he deplored the "vestralisation" whereby it was prejudiced owing to constitution by indirect election. It was partly to this congenital defect that Lord Herschell's Commission of 1888 traced its undoing and unhallowed end.

Chadwick in this same work declaimed against the "jobocracy of vestrydom"; many vestrymen were, he declared, "persons whose time is worthless, who are ignorant and wasteful or obscure persons who have some sinister interests to promote." Their paid officers, he said, were "under the necessity of having to work down to ignorance instead of up to scientific administrative principles." Slum-owners in some cases "got possession of the local boards of sanitary authorities," and as the Royal Commission on Housing subsequently reported "many of those whose duty it was to see that a better state of things was effected were those whose interest it was to keep things as they were."

Like some of his contemporaries, Chadwick regarded drainage as constituting a large, perhaps too large a part of practical sanitation. In 1885 he still clung lovingly to the "separate system" as he called it, epitomised in the phrase "the rainfall to the river and the sewage to the soil," and he mercilessly condemned the "combined system" adopted by that "vestral authority" as he stigmatised it, the Metropolitan Board of Works.

Basing himself on Farr's vital statistics, he maintained that "good sanitary measures under unity" might secure for the whole of the metropolis a death-rate not exceeding 11 per 1000, which then only obtained in a few favoured West-end districts. When Farr began his labours a death-rate of 25 per 1000 was not uncommón in London; in 1921 we have seen it at 12·5 per 1000.

In exemplification of his gospel of "Unity" Chadwick recalls that by the Poor-law Amendment Act, which he fathered, some 16,500 parishes were condensed into 660 unions, with great saving of unnecessary and wasteful expenditure and a marked increase of efficiency in administration. He proudly quotes the exclamation of Mr. Gladstone, "What would have become of the Poor-law Amendment Act, which is perhaps the greatest reform of this century, if it had been entrusted to the local authorities of that day!" To those who charged him with being "all for centralisation" he retorted, "I am on principle for extensive de-centralisation by well-arranged local consolidation, for superior self-government over that which now exists; a true representation of the best local intelligence under unity in the place of disunity and local ignorance."

He repudiated the soft impeachment of being a benevolent despot; if he aimed at centralisation as against the corrupt and inefficient local self-government he had encountered, it was, he said, "centralisation for the protection of liberty . . . ." If he condemned the *laissez faire* doctrine of those who claimed liberty for themselves and denied it to others it was because he held "Liberty is a right with a corresponding obligation to respect it. Liberty consists of the power of doing anything which does not hurt another."

Looking back from 1885 to his old battles of the 'forties and 'fifties, he reflects with sorrow rather than with anger or resentment on the "vote obtained under the combination of interests" which killed the General Board of Health, and sent him into a premature pensioned retirement. He recalls "the continued serious contraventions, which I was unable to withstand, of principles which were not understood," and how despite the "vexations and obstructions of half-knowledge," he had felt "constrained to go on" "for the sake of the gain to be obtained by other men after my time," and he added, "I do not regret."

His Friends and Co-workers.

If Chadwick had many enemies, whose names are mostly forgotten, he had also some devoted friends and coadjutors whose services to mankind are gratefully remembered. Let us recall some of these, who accepted the Chadwick school of thought and lent their invaluable support to the reforms he urged so insistently, often on deaf ears and shut imaginations. I have already alluded incidentally to some of them.

Dr. Southwood Smith (1788-1861) was a man after Chadwick's own heart. Born in 1788, at first a Unitarian minister teaching a universalist doctrine in Edinburgh, he later graduated M.D. at that University. From 1824 to 1839, physician to the London Fever Hospital, he spoke with authority on infectious diseases. If he were open to Simon's charge of "immensely under-rating the independent importance of morbid contagia," he displayed "a perfectly proper zeal against filth." He wrote and spoke with equal felicity, was an excellent anatomist, and I have already referred to his services to his master Bentham both before and after the latter's demise. He was the author of "The Philosophy of Health" and "Illustrations of the Divine Government," and contributed much of the distinctively medical portions of Chadwick's reports.

Dr. William Farr was born in 1807 and died in 1883. It is not without interest to note that the combined ages of Farr, Southwood Smith, and Chadwick spanned nearly two and a half centuries. Farr was described by those who knew him as "a man with the liveliest intelligence, with a mind revelling in generalisation, and a master of methods by which arithmetic is made argumentative." He made

Descartes' "Discours de la Méthode" his model. He recognised the limitations as well as the virtues of statistics, and would not have disputed the epigram that while "figures cannot lie, liars sometimes figure." He was the first to essay lectures on hygiene, was a man of large and liberal views, a glutton for work, of great personal charm, and of genial disposition.

Dr. Kay, afterwards Sir James Kay-Shuttleworth (1804-1877), wrote on the moral and physical condition of the working classes, studied typhus in Edinburgh and cholera in Manchester and helped to develop the system of national education. Kay, Southwood Smith, and Neil Arnott were the first medical men to be enlisted by Chadwick into the national service of public health. Kay-Shuttleworth was a great Liberal and, shall I blush to say it, a great Free Trader?

Yet another co-worker and contemporary of those early Victorian days stands out pre-eminently as a sanitary reformer of the Chadwick type; one whose heroic ministrations initiated military hygiene, and brought to the succour of the sick and wounded an informed gentleness and a humane efficiency which have placed the name of Florence Nightingale second to none among the venerated of her sex. It was Chadwick who assisted and encouraged her in drawing the moral of the Crimean muddling and in applying sanitary science to the army alike in peace and war. It was he who urged her to enlist the support of Kinglake and helped to popularise her "Notes on Nursing" with her plea for household hygiene and for "ample ramparts of fresh air" against zymotic diseases. It was Chadwick, too, who counselled her to continue her labours after the death of Sidney Herbert—her "Master" as she called him. With John Stuart Mill and Chadwick she coöperated in Poor-law and sanitary reform, and when the former died of fever at Avignon in 1873 she reproached Chadwick for not having had regard to the sanitary environment of their mutual friend.

Another personality of true nobility, not indeed a medical man, but a mighty social reformer ever to be held in reverence and esteem, was linked with Chadwick and Southwood Smith, and less closely with the others I have named, in the work of the General Board of Health from 1848 to 1855—I mean the seventh Earl of Shaftesbury. That lofty and independent embodiment of *noblesse oblige* successively and not unsuccessfully laboured to improve our asylums, our factories, our slums, our ragged schools, and common lodging-houses. He worked as ever in the Great Taskmaster's eye, an evangelist indeed, and "the impersonation of the philanthropic spirit of the nineteenth century."

In Parliament Lord John Russell was for years Chadwick's champion and supporter, while sometimes a little perturbed by the sanitary reformer's disregard of so-called local authorities. Russell declared that the Poor-law Amendment Act had saved the country from great social evils, if not from social revolution, and Gladstone even spoke of it as "the greatest reform of the century." On another occasion Lord John Russell asserted that "there was no one to whose zeal and assiduity the country is more indebted than to Mr. Chadwick." It was Prince Albert who obtained for him a C.B. in 1848, but he did not receive the accolade until he was 89.

His Vindication.

I have attempted, as requested, though very imperfectly, to sketch "the life and doctrine of Sir Edwin Chadwick." Whatever the verdict of history may eventually be, he stands for solid achievement in the story of sanitary and social reform. Much that was at the time ridiculed as the vapouring of a visionary has become the veriest commonplace of daily sanitary administration. "The stone which the builders refused has become the headstone of the corner." By instinct a democrat and a devotee of reform, his ruthless pursuit of his "sanitary idea" arrayed against him the interests who shouted him down as an "autocrat." Yet he and his school of thought taught nineteenth-century England a very salutary lesson.

They did not seek the causes of pestilence in visitations of an offended Deity, nor in convulsions of Nature; nor did they set much store on epidemic constitutions of the air, or obscure telluric disturbances. They believed that they found in external physical conditions, largely removable and mostly the product of ignorance or neglect, the proximate antecedents of certain infections called zymotic. These were the nemesis of sanitary shortcomings, the evil fruitage of transgression of hygienic law, and in a sense, therefore, the penalty of moral misdoing. They looked to personal and civic cleanliness, ample supplies of pure air and water and wholesome food, decent dwellings, adequate exercise, reasonable wages and hours of labour and leisure, and the prompt removal of filth and effete material as important factors of national and individual health, and as specially potent against the invasion of pestilence which aforetime walked in darkness, but whose causation was now made manifest by the dry light of science. Further, they believed in the common origin, in filthy conditions, of many so-called specific diseases; they believed in their generation *de novo* by such antecedents, as well as by their propagation through infection. They believed in the mutability of specific diseases, under the influence of favourable or unfavourable soil, holding that the soil must be studied no less than the seed, and that even though certain vegetable or animal particles or ferments stood in some sort of causal relationship to them, the predisposing causes were not less important, and indeed could hardly be overrated. In practical application they sought to influence for good the environment of mankind, making the battle-ground with disease *without* rather than *within* the uninfected body, setting great store on the natural vigour of the healthy body itself as the best security against its successful invasion by inimical agencies.

This, then, was the wholesome doctrine inculcated by Chadwick and his school. "Man's mere opinions must ever be liable to error. By the motives which sway his heart can he alone be judged"; and I venture to assert that any impartial student of the life work of Edwin Chadwick will rise from his task with the conviction that the motives which swayed his heart were the disinterested love of his fellow man and the devotion of the highest gifts to the amelioration of his lot and the betterment of his life.

WORMS IN A HERNIAL SAC.

IN a recent issue of *El Siglo Medico*, a medical journal published in Madrid, Dr. Carrasco, chief of the civil hospital at Bilbao, places on record a case which occurred in his hospital practice 25 years ago, and which has remained unique in his experience. He states that on Feb. 20th, 1899, a woman attended the hospital with a child of 2 years old who had a distended tumour in the scrotal region. The tumour was painful and as large as an orange, somewhat fixed, and dull on percussion. There was no fluctuation which might have indicated hydrocele. Pain had persisted for eight days and, according to the mother's statement, the hernia was congenital. The abdomen was tympanitic and the child suffered from vomiting of fæcal character and constipation. Believing this to be a clear case of strangulated hernia, Dr. Carrasco was much surprised to find on incision a sac whose walls were as transparent as glass, and distended to the point of rupture by a shapeless mass of living ascarid worms. The worms were twisting and writhing as if trying to break the walls of their prison. He attempted to empty the sac by gentle pressure but to no purpose; the ascarids formed a tangled bundle, and the herniated mass was so large that even after incision of the constructing ring he was not able to reduce the condition. As something had to be done, the intestine was opened and more than 60 worms were withdrawn, several of which measured more than 25 cm. in length. While the intestinal wound was being sutured several more worms appeared in the diverticulum as if the intestine were a veritable breeding-ground. He removed the diverticulum and the child left the hospital when the wound was healed, but no subsequent history has been available. Dr. Carrasco states that he cannot find in medical literature any account of a similar condition.

The classical description of a varicocele (presumably also in Spanish medical schools) is that, on palpation, it "has the feel of a bag of worms." A bag of worms is hardly an object met with—much less palpated—in everyday practice, and in a case like the above, where such a bag actually came under the doctor's fingers, no suggestion was made that it had "the feel of a varicocele."

THE THERAPEUTICS OF PAIN.

WITH this title Prof. James J. Walsh, of New York, has written a paper[1] which is a study of the means taken to relieve pain from the earliest days of primitive medicine to the present time. His main thesis is that there has been no change in the underlying principle, although its uniformity has not been recognised, and the different cloaks under which it has been concealed have been regarded as fundamentally distinct from age to age. Suggestion, Prof. Walsh argues, has relieved more pain and cured more disability than any other known remedy, and whether it be conveyed by the metallic tractors of Dr. Elijah Perkins or by the phrases of Mr. Coué, the result is the same, provided the patient's mind is in a properly receptive state. The history of the famous St. John Long liniment a century ago is typical of certain remedies in every age. This liniment cured even tuberculosis and was held to be so marvellous in its action that the British Government of the day paid an enormous sum for its secret. When this was divulged and the liniment

[1] International Clinics. Philadelphia: J. B. Lippincott Co. 1923. Vol. III. Thirty-second Series.

proved to be only an ordinary turpentine liniment made with the yolk of egg instead of with oil, it ceased to be so effective in the relief of pain. So great, indeed, was the disappointment over the publication of the formula of this liniment, that St. Long John was accused of concealing the real secret and selling a misleading formula. In his review of the history of the Perkins' metallic tractors, with which Oliver Wendell Holmes was treated, Prof. Walsh suggests that the English are peculiarly amenable to suggestion. He writes of Perkinism: "Dr. Perkins's son carried it over to England where there is always a fertile field for such novelties in therapeutics and where there are always a large number of educated people waiting to be cured by something that has just been discovered and has cured nobody before them, and was manifestly, in some way or another, intended for their special benefit."

In the matter of quack remedies we are not prepared to argue that there is an excess of exports over imports as between this country and the U.S.A., but it is doubtful if Prof. Walsh is correct in associating, as he does, credulity with education. He is, however, assuredly correct in his statement that the well-known fallacy, *post hoc ergo propter hoc*, has always been the source of an immense amount of knowledge in medicine that had no foundation in reality. In so saying, he is but paraphrasing the familiar words of Josh Billings, "it would be much better not to know so much that you know so many things that ain't so."

THE POISON BOTTLE.

WITH the object of calling attention to the fact that a bottle contains poison, Messrs. Furness and Richardson, 61, Tweedy-road, Bromley, Kent, have placed upon the market an ingenious device (vide illustration) which makes it impossible to withdraw a cork until a semi-cylindrical guard,

terminating in a ring, horizontal to, and at the level of the cork, is pressed down so as to permit the fingers taking hold of the cork. The guard, which can be made in various standard sizes and of various suitable materials, is kept in position by a spring placed around the neck of the bottle. The name of devices for preventing the careless use of bottles containing poison is legion, but it would seem impossible entirely to guard against human error in this connexion; any device, however, which compels individual attention is to be commended. The weak point in the present device is that it is not a fixture. Laziness might prompt its removal. The retail price of the article is 6*d*.

THE OLD CAIRO MEDICAL MISSION HOSPITAL.

SINCE the appearance of the last biennial report of the hospital many changes have taken place in Egyptian political life, notably the elevation of Egypt to the status of an independent kingdom, but as the principal medical officer of the hospital, Dr. F. O. Lasbrey, states in a preface to the report for the years 1922-23 the Egyptians themselves are not essentially changed and the hospital is still as popular as it was in the old days. It provides the accommodation of some 180 beds, 150 in the men's hospital and 53 in the women's hospital, while there are open-air pavilions which can accommodate from 600 to 800 cases for resident patients suffering from ankylostomiasis or bilharziasis. These cases lie on mats instead of beds, as most of the beds are devoted to surgical cases. While the numbers attending the hospitals during the years 1922-23 did not quite equal those of the record year 1920, they are not far short of that figure and the numbers of general surgical in-patients have kept up steadily. In the section for the treatment of ankylostomiasis 10,975 cases were treated during the two past years, and it is interesting to note that in addition to the above about 80 per cent. of the regular surgical in-patients take this course of treatment during their stay in hospital. These numbers show a considerable reduction on those of the last report. One reason for that is that the Government is now undertaking widespread treatment of this disease throughout the country. The routine treatment is still chenopodium oil, which must be fresh to be effective. In the section devoted to bilharziasis 2053 invalids were treated during the two years. The treatment adopted is that of injections of antimony tartrate, and the sodium salt is now used in preference to the potassium as the former was found to be less depressing. The latest figures seem to prove that, in practice, in every case the worm and eggs will be killed if only the patient will continue till the end of the course, but unfortunately a certain proportion find such benefit after taking two-thirds of the course that they do not wait to complete the requisite number of injections. In general surgical work the favourite anæsthetic for all suitable cases is stovaine given intrathecally, and over 3000 operations have been performed with this anæsthetic during the last few years with most satisfactory results. Egyptian splenomegaly is still treated by splenectomy, and the recent case mortality has been kept to the satisfactorily low percentage of 15·7. The ophthalmic section has shown the most marked progress during the last two years; nearly 25 per cent. of the total number of out-patients attending the hospital have been eye cases, the prevailing diseases being trachoma and trichiasis, for which, in the period under review, over 3000 operations were done. Considerable success attended the work carried on by means of tent hospitals during the winter months, two separate camp dispensaries being established.

The Medical Mission which is conducted at Menouf under Dr. A. R. Hargreaves, principal medical officer, has suffered some diminution in the extent of its work during the past two years, due partly to the increasing numbers of doctors practising in the country towns and in the villages, and partly to the increased facilities for travelling to Cairo. On the other hand, the lessened wealth of the peasants has had an adverse effect on the mission work. The hospital at Menouf has accommodation for 40 in-patients and there are out-patient dispensaries at Ashmoon, Bei el Arab, and Shubra Zanza.

MACKIE'S CHARCOAL BISCUITS.

CHARCOAL biscuits may often prove a useful adjunct to the treatment of certain well-known affections of the stomach and intestines. We have received from Messrs. J. W. Mackie and Sons, Ltd., purveyors to His Majesty the King, a sample of their biscuits, which they state are made from the purest vegetable charcoal. These biscuits are entirely free from grit and are just sufficiently sweet to make them pleasant to the taste.

MOTOR-CARS FOR DISABLED PERSONS.

IN collaboration with Captain Richard Twelvetrees, Messrs. G. W. K., Ltd., of Maidenhead, have recently introduced one of their standard light car models converted to hand control. We are informed that after extended tests both in traffic and under ordinary touring conditions, it is found that the car can be handled with comfort and safety; apart from the alterations to the controls the chassis mechanism is standard. The form of friction drive which has been used on this make of car for many years is said to lend itself well to the needs of the disabled driver, for there is no danger of missing the gears. The alteration to the mechanism consists in pivotting the steering column at its lower end, so that to get a free engine the driver has only to pull the steering wheel slightly towards him. A continuation of the movement applies one of the brakes, and it is said that at a speed of 48 miles an hour the car can be brought to a standstill within a distance of 40 yards by the use of the steering wheel brake alone. A very slight pressure on the wheel releases the drive sufficiently to enable the driver to alter the gear ratio by the usual form of side lever and a second brake is operated by a side lever. Though normally situated at the right-hand side of the driver, the two levers can be located at the left in cases of right arm disablement. The manufacturers are prepared to convert a standard model to suit individual clients with various forms of disablement without extra charge.

The innovation is said to bring motoring within the reach of those who suffer from amputation of one or both legs. We agree that it is desirable that as far as possible disabled persons should be helped to lead a normal social life, and that adjustments of mechanical contrivances to this end are of great value. There is, however, another side to the question, that of the public safety. In view of the fact that a licence to drive does not necessarily imply ability to do so, it would be wise of any disabled man to submit himself to some recognised test and acquire a certificate of competency before taking the road. If this precaution has been taken any accident which may occur will not be regarded as a reflection on his power of controlling the machine.

SMALL-POX INOCULATION IN 1760.

ALTHOUGH it is known, in a general way, that inoculation for small-pox was performed in the eighteenth century, it is not often that contemporary mention of the practice is to be found, and therefore considerable interest attaches to a couple of old family letters, dated 1760 and 1763, in the possession of Arthur Bowes Elliott, F.R.C.S., of Abergele, in which reference is made to this method of preventing the ravages of the disease. The Bowes family were for generations doctors in Richmond, Yorks, and neighbourhood, and the inoculation described in the following letter was doubtless performed on Mr. Bowes's apprentice for the sake of example:—

"Bedale, Feb. 25th, 1760.

"Now at last I have written to you, as I know you will be very inquisitive to know how Affairs go about our Inoculation, you must know we are to begin to prepare tomorrow for the first Time in Earnest, and then we are to have a Water* podish twice a day, and more Puding than any of us wish for, but however I am resolved to go thro': with it, tho' it be at the Expe'ce of many a Hungry Belly.

Mr. Bowes's Apprentice and his Sister were Inoculated on Monday the 13th Inst., and have just heard the Small pox were coming out yesterday, but have not heard anything to day but will let you know on Saturday. I assure could wish you for my Nurse, tho: I almost despair of that Favour, however I know you'll wish me well, and that will contribute a good Deal to my Recovery. I am, dear Coz., yours to command

WILLM. PREST."

Letters from a young lady in Richmond, Yorks, have frequent references to the small-pox being all round her in 1762–1763. On Oct. 30th, 1763, speaking of a Dance there, she says:—

"Mrs. M. and Mrs. S——, has never had the Small Pox and some of the Company had them in ye Family, so that I fancy the Ladies was in parties. Inoculation has had great Success, and Miss W——r had no appearance so that it shows all Constitutions are not liable to take them." . . .

Dr. Kenneth Rogers, to whom we are indebted for the letters, adds: "The frequent mention of the small-pox (always used correctly as the plural of Pock), as an *inevitable* disease—e.g., such a reference as 'I wish Mrs. So-and-So's little folks were through them,' is of interest in these days when the *anti*-vaccinators are loud in the land!"

EATING WITHOUT FEARS.

COOKERY books are many and of varying excellence, and it is always a pleasure to us to know that one of the best was written by a member of our own calling—namely, the "Cook's Oracle," by Dr. William Kitchiner. The philosophy of dining has been set forth by many great writers, notably George Meredith and Thackeray, the former of whom wrote: "If it be a distinct point of wisdom to hug the hour that is, then does dinner amount to a highly intellectual invitation to man, for it furnishes the occasion; and Britons are the wisest of their race, for more than all others they take advantage of it. In this Nature is undoubtedly our guide, seeing that he who, while feasting his body, allows to his soul a thought for the morrow, is in his digestion curst, and becomes a house of evil humours." As for Thackeray, it is unnecessary to do more than mention his "Memorials of Gormandizing," and the inimitable Fraser paper entitled "Barmecide Banquets with Joseph Bregion and Anne Miller." Mr. Scotson-Clark has recently published just such a book[1] as would have delighted either of the above-mentioned authors. We do not agree with him on one or two points—e.g., it is a mistake to say that cream is very fattening (p. 27) and to cook kippers by warming them through in a frying-pan with a little water is anathema (p. 45). Kippers should always be either grilled, or best of all done in a Dutch oven, a cookery armament which we are glad to see Mr. Scotson-Clark praises. With these exceptions the book is admirable, though we contend that larks are much too fascinating and too valuable to the agriculturist to be eaten. Mr. Scotson-Clark is not afraid of garlic, which too many modern housekeepers shy at; also he lays stress upon the fact that curry to be good should always be made from fresh meat. His recipes for spaghetti and risotto are perfect, and also his directions for cooking poultry. Chapon au Mais is a dish known to few and an excellent one at that, and we will add one of the same kind—namely, a medium-sized tender fowl, stuffed with flavoured rice, i.e., rice to which pepper, salt, butter, and a trace of garlic has been added. This is to be placed inside an ordinary yellow melon from which the seedy interior has been removed and some veal stock added. The lid of the melon is replaced and tied on with string and the whole is then baked in a slow oven for one and a half hours. On curries and soups Mr. Scotson-Clark is equally good. We can only add that to read his book makes the reader hungry, and hunger connotes health.

* ? Possibly a corruption of potage. From the context it would appear to be some "slop" diet.

[1] Eating without Fears. By G. F. Scotson-Clark. London: Jonathan Cape. 1924. Pp. 208. 3*s.* 6*d.*

ARTIFICIAL RESPIRATION.

Captain G. R. G. Fisher, who is an instructor in first-aid in Omaha, Nebraska, and has also done similar first-aid work in this country, has written a little manual[1] which conveys some useful instruction in letterpress and pictures. It is designed especially for those who are employed in industrial or mining works, and for policemen and firemen. The style of writing is likely to make a greater appeal to American than to British readers.

DIABETES TREATMENT CHARTS.

WE have received from Messrs. H. K. Lewis and Co., Ltd. (28, Gower-place, London, W.C. 1), a specimen copy of a new chart designed by Dr. O. Leyton for use in the treatment of diabetes. The chart is arranged for recording in graphic form the dosage of insulin, the constituents of the diet in grammes and calories, and the progress of the case as shown by the body-weight and the percentage of sugar in the blood and urine. The price of the charts is 25 for 2*s.*, or 100 for 6*s.* 9*d.*

EYESIGHT IN INDUSTRY.

A STUDY,[2] emanating from the office of the League of Nations, has for its object to encourage further research into the problems of industrial lighting, to disseminate knowledge of the principles involved, and to enlist the coöperation of employers, and workmen's organisations in putting these principles into practice. After defining units of illumination and describing different methods of photometry, the pamphlet classifies and compares the different sources of artificial light. With regard to their effect on the eyes of the worker, the main stress is laid not in the kind of light, but on its position on globes and reflectors, and on the relative amount of illumination necessary for different occupations. The physiology of vision is touched on so far as it is concerned with visual acuity, light and dark adaptation, and the various reflexes in which different parts of the visual apparatus are concerned. A correct summary of the present state of our knowledge on the effects of the invisible rays on different parts of the eye is given; there is a useful chapter on industrial accidents arising from defective lighting and another on prevention of eyestrain and protection of the eyes by glasses. It will be seen that the brochure covers much ground in a short space. A useful bibliography is appended. The only slip we have noticed is the curious repetition of the word "pupils" for "eye-lids" in three separate places.

[1] A Manual of Artificial Respiration. Boston, Massachusetts: The Stratford Company. Pp. 80. $0.75.

[2] The Protection of Eyesight in Industry: Problems of Industrial Lighting. Geneva: International Labour Office. Pp. 158. 2*s.* 6*d.*

VASECTOMY INSTEAD OF CASTRATION IN LIVE-STOCK.

To the Editor of THE LANCET.

SIR,—In a recent issue of the *Overseas Mail* reference is made to an experiment about to be undertaken by Dr. Serge Voronoff, whereby he hopes to evolve a permanent new breed of heavily clad animals. This refers to an experiment on sheep to provide more wool. Now, as a matter of fact, I have been urging vasectomy in Cape Colony for this purpose for the last 14 years (*Agricultural Journal, Cape*, August, 1909), but without much progress. In October last Mr. du Toit, Director of Veterinary Education and Research, Pretoria, kindly undertook an experiment with vasectomy, treating six lambs and setting aside controls. The other day he sent me a report in which he says: "It is too early yet to give a final verdict on the result of the small experiment conducted by us, but it would appear as if the method is of real practical value to the sheep farmer." The same department informs me that the procedure is easily carried out at the rate of 30–40 per hour. Veterinary surgeons admit the theory but demur at the difficulty of the process, which must, however, be faced if 16*s.* extra wool and 40*s.* more beef is produced per unit in flocks and herds. As regards the sexual impulse, if vasectomy is performed shortly after birth the sexual arc is broken, the centre atrophies, and the animal is quiet and manageable. I understand that at one time hearse horses in London were so treated and proved useful animals. We may suppose that the germ function being in abeyance, the Sertoli cells receive more nutriment and thus create more wool and vitality in the animal.

I am, Sir, yours faithfully,

W. ROBERTSON.

Mossel Bay, South Africa, Feb. 19th, 1924.